CITY OF SAN CARLOS
PUBLIC WORKS DEPARTMENT

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September 30, 2019

Mr. Michael Montgomery
Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: **City of San Carlos**
FY 2018/19 Annual Report

Dear Mr. Montgomery:

This letter and Annual Report with attachments is submitted by City of San Carlos pursuant to Permit Provision C.17.a of the Municipal Regional Stormwater NPDES Permit (MRP), Order R2-2015-0049, NPDES Permit No CAS612008 issued by the San Francisco Bay Regional Water Quality Control Board. The Annual Report provides documentation of compliance activities conducted during FY 2018/19 and related accomplishments.

Please contact Steven Machida at 650-802-4203 regarding any questions or concerns.

Very truly yours,

Steven J. Machida, P.E.
Public Works Director

CITY OF SAN CARLOS
FY 2018/19 ANNUAL REPORT

Certification Statement

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Duly Authorized Representative:

Steven J. Machida, Public Works Director — Date 9/30/19

Table of Contents

Section **Page**

Section 1 – Permittee Information

Background Information					
Permittee Name:	City of San Carlos				
Population:	28,406 (2010 Census)				
NPDES Permit No.:	CAS612008				
Order Number:	R2-2015-0049				
Reporting Time Period (month/year):	July 2018 through June 2019				
Name of the Responsible Authority:	Jeff Maltbie			**Title:**	City Manager
Mailing Address:	600 Elm Street				
City:	San Carlos	**Zip Code:**	94070	**County:**	San Mateo
Telephone Number:	650-802-4228	**Fax Number:**			650-595-6729
E-mail Address:	JMaltbie@cityofsancarlos.org				
Name of the Designated Stormwater Management Program Contact (if different from above):	Steven J. Machida	**Title:**	Public Works Director		
Department:	Public Works				
Mailing Address:	600 Elm Street				
City:	San Carlos	**Zip Code:**	94070	**County:**	San Mateo
Telephone Number:	650-802-4203	**Fax Number:**			650-595-6704
E-mail Address:	SMachida@cityofsancarlos.org				

Section 2 - Provision C.2 Reporting Municipal Operations

Program Highlights and Evaluation

Highlight/summarize activities for reporting year:

Summary:

1. City maintenance staff regularly attend the SMCWPPP Municipal Maintenance Subcommittee.
2. The City regularly maintains and inspects the City Corporation Yard.
3. City staff visually screens for illicit discharges when conducting storm drain inlet cleaning.
4. Maintenance staff clean and inspect all storm drain catch basins within the City limits, including those with trash capture devices.
5. City maintenance staff schedules to clean trash capture devices three times per year.
6. Maintenance work orders are also tracked in the City's Computerized Maintenance Management System (Lucity).

C.2.a. ►Street and Road Repair and Maintenance

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of debris and waste materials during road and parking lot installation, repaving or repair maintenance activities from polluting stormwater
Y	Control of concrete slurry and wastewater, asphalt, pavement cutting, and other street and road maintenance materials and wastewater from discharging to storm drains from work sites.
Y	Sweeping and/or vacuuming and other dry methods to remove debris, concrete, or sediment residues from work sites upon completion of work.

Comments: **NA**

C.2.b. ►Sidewalk/Plaza Maintenance and Pavement Washing

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of wash water from pavement washing, mobile cleaning, pressure wash operations at parking lots, garages, trash areas, gas station fueling areas, and sidewalk and plaza cleaning activities from polluting stormwater
Y	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs

Comments: **NA**

C.2.c. ►Bridge and Structure Maintenance and Graffiti Removal

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of discharges from bridge and structural maintenance activities directly over water or into storm drains
Y	Control of discharges from graffiti removal activities
Y	Proper disposal for wastes generated from bridge and structure maintenance and graffiti removal activities
Y	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs for graffiti removal
Y	Employee training on proper capture and disposal methods for wastes generated from bridge and structural maintenance and graffiti removal activities.
Y	Contract specifications requiring proper capture and disposal methods for wastes generated from bridge and structural maintenance and graffiti removal activities.

Comments: **The City does not wash graffiti off when it is over a waterway, instead the City's BMP calls for painting over the graffiti.**

C.2.e. ►Rural Public Works Construction and Maintenance

Does your municipality own/maintain rural[1] roads:		Yes	X	No

If your answer is **No** then skip to **C.2.f**.

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

NA	Control of road-related erosion and sediment transport from road design, construction, maintenance, and repairs in rural areas
NA	Identification and prioritization of rural road maintenance based on soil erosion potential, slope steepness, and stream habitat resources
NA	No impact to creek functions including migratory fish passage during construction of roads and culverts
NA	Inspection of rural roads for structural integrity and prevention of impact on water quality
NA	Maintenance of rural roads adjacent to streams and riparian habitat to reduce erosion, replace damaging shotgun culverts and excessive erosion
NA	Re-grading of unpaved rural roads to slope outward where consistent with road engineering safety standards, and installation of water bars as appropriate
NA	Inclusion of measures to reduce erosion, provide fish passage, and maintain natural stream geomorphology when replacing culverts or design of new culverts or bridge crossings

Comments including listing increased maintenance in priority areas: **NA**

[1]Rural means any watershed or portion thereof that is developed with large lot home-sites, such as one acre or larger, or with primarily agricultural, grazing or open space uses.

C.2.f. ►Corporation Yard BMP Implementation

Place an **X** in the boxes below that apply to your corporations yard(s):

	We do not have a corporation yard
X	Our corporation yard is a filed NOI facility and regulated by the California State Industrial Stormwater NPDES General Permit
X	We have a **Stormwater Pollution Prevention Plan (SWPPP)** for the Corporation Yard(s)

Place an **X** in the boxes below next to implemented SWPPP BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type **NA** in the box. If one or more of the BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:

X	Control of pollutant discharges to storm drains such as wash waters from cleaning vehicles and equipment
X	Routine inspection prior to the rainy seasons of corporation yard(s) to ensure non-stormwater discharges have not entered the storm drain system
X	Containment of all vehicle and equipment wash areas through plumbing to sanitary or another collection method
X	Use of dry cleanup methods when cleaning debris and spills from corporation yard(s) or collection of all wash water and disposing of wash water to sanitary or other location where it does not impact surface or groundwater when wet cleanup methods are used
X	Cover and/or berm outdoor storage areas containing waste pollutants

Comments:
NA

If you have a corporation yard(s) that is not an NOI facility, complete the following table for inspection results for your corporation yard(s) or attach a summary including the following information:

Corporation Yard Name	Corp Yard Activities w/ site-specific SWPPP BMPs	Inspection Date[2]	Inspection Findings/Results	Date and Description of Follow-up and/or Corrective Actions
NA – Only Corp Yard is an NOI Facility	**NA**	**NA**	**NA**	**NA**

[2] Minimum inspection frequency is once a year during September.

Section 3 - Provision C.3 Reporting New Development and Redevelopment

C.3.b.iv.(2) ►Regulated Projects Reporting

Fill in attached table **C.3.b.iv.(2)** or attach your own table including the same information.

C.3.e.iv. ►Alternative or In-Lieu Compliance with Provision C.3.c.

Is your agency choosing to require 100% LID treatment onsite for all Regulated Projects and not allow alternative compliance under Provision C.3.e.?		**Yes**	**X**	**No**
Comments (optional): **The City reviews Regulated Projects' planned use of alternative compliance on a case-by-case basis. To date, the City has not approved alternative compliance for a Regulated Project.**				

C.3.e.v ► Special Projects Reporting

1. In FY 2018-19, has your agency received, but not yet granted final discretionary approval of, a development permit application for a project that has been identified as a potential Special Project based on criteria listed in MRP Provision C.3.e.ii(2) for any of the three categories of Special Projects (Categories A, B or C)?		**Yes**	**X**	**No**
2. In FY 2018-19, has your agency granted final discretionary approval to a Special Project? If yes, include the project in both the **C.3.b.iv.(2)** Table, and the **C.3.e.v.** Table.		**Yes**	**X**	**No**

If you answered "Yes" to either question,

1) Complete Table C.3.e.v. – **NA**
2) Attach narrative discussion of 100% LID Feasibility or Infeasibility for each project. – **NA**

C.3.h.v.(2) ► Reporting Newly Installed Stormwater Treatment Systems and HM Controls (Optional)

On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting year) stormwater treatment systems and HM controls to the local mosquito and vector control agency and the Water Board. The list shall include the facility locations and a description of the stormwater treatment measures and HM controls installed.

See attached Table C.3.h.v.(2) for list of newly installed Stormwater Treatment Systems/HM Controls.

C.3.h.v.(3)(a) –(c) and (f) ► Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Site Inspections Data	**Number/Percentage**
Total number of Regulated Projects (including offsite projects, and Regional Projects) in your agency's database or tabular format at the end of the previous fiscal year (FY 17-18)	**7**
Total number of Regulated Projects (including offsite projects, and Regional Projects) in your agency's database or tabular format at the end of the reporting period (FY 18-19)	**7**
Total number of Regulated Projects (including offsite projects, and Regional Projects) for which O&M verification inspections were conducted during the reporting period (FY 18-19)	**4**
Percentage of the total number of Regulated Projects (including offsite projects, and Regional Projects) inspected during the reporting period (FY 18-19)	57%[1]

[1] Based on the number of Regulated Projects in the database or tabular format at the end of the previous fiscal year, per MRP Provision C.3.h.ii.(6)(b).

C.3.h.v.(3)(d)-(e) ► Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Provide a discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or HM controls. This discussion should include a general comparison to the inspection findings from the previous year.

Summary:

Generally, stormwater control measures were found to be in good working order. Bio-retentions in parking lots tended to have minor trash debris, but property owners were able to pick it up during the inspection.

For vault-based systems, City staff inspects the site, and collects a third-party inspection report detailing the inspection date, condition of the vault unit, and whether cleaning was performed.

Provide a discussion of the effectiveness of the O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness program).

Summary: **The O&M program continues to be effective in ensuring proper maintenance of both public and private stormwater treatment measures. These regular inspections reinforce contact between the onsite personnel maintaining the measures, and thereby lead to better performance of the constructed treatment measures.**

C.3.i. ►Required Site Design Measures for Small Projects and Detached Single Family Home Projects

On an annual basis, discuss the implementation of the requirements of Provision C.3.i, including ordinance revisions, permit conditions, development of standard specifications and/or guidance materials, and staff training.

Summary:

BASMAA prepared standard specifications in four fact sheets regarding the site design measures listed in Provision C.3.i, as a resource for Permittees. We have modified local ordinances/policies/procedures and forms/checklists to require all applicable projects approved after December 1, 2012 to implement at least one of the site design measures listed in Provision C.3.i.

C.3.j.i.(5).(b) ► Green Infrastructure Plan

(For FY 2018-19 Annual Report only) Did your agency complete a Green Infrastructure Plan?	X	**Yes, see attached Green Infrastructure Plan**		**No**

If No, provide schedule for completion: **NA**

C.3.j.i.(5).(c) ► Legal Mechanisms

(For FY 2018-19 Annual Report only) Does your agency have legal mechanisms in place to ensure implementation of the Green Infrastructure Plan?	X	**Yes, see attached documents or links provided below**		**No**

If Yes, describe the legal mechanisms in place and the documents attached or links provided.

As part of the GI Plan development process, the City has reviewed its existing policies, ordinances, and/or other legal mechanisms related to the implementation of stormwater NPDES permit requirements and found that it has sufficient legal authority to implement the GI Plan. At the June 24, 2019 City Council Meeting, Staff presented a resolution for approving the Green Infrastructure Plan in Accordance with Provision C.3.J of the MRP, and finding the action to be exempt from environmental review pursuant to CEQA Guideline 15308. The resolution was adopted, the agenda and minutes of the Council meeting can be found on the City's public website.

If No, provide schedule for completion: **NA**

C.3.j.i.(5)(d) ► Green Infrastructure Outreach

On an annual basis, provide a summary of your agency's outreach and education efforts pertaining to Green Infrastructure planning and implementation.

Summary:

To prepare the City's Green Infrastructure Plan, Staff from the Planning Department, City Manager's Office, and Public Works Department met four times to discuss the plan development, provide input, and review chapter content during the drafting process.

Please refer to SMCWPPP FY 2018/19 Annual Report for a summary of outreach efforts implemented at the countywide level.

C.3.j.ii.(2) ► Early Implementation of Green Infrastructure Projects

On an annual basis, submit a list of green infrastructure projects, public and private, that are already planned for implementation during the permit term and infrastructure projects planned for implementation during the permit term that have potential for green infrastructure measures. Include the following information:

- A summary of planning or implementation status for each public and private green infrastructure project that is not also a Regulated Project as defined in Provision C.3.b.ii. (see C.3.j.ii.(2) Table B - Planned Green Infrastructure Projects).
- A summary of how each public infrastructure project with green infrastructure potential will include green infrastructure measures to the maximum extent practicable during the permit term. For any public infrastructure project where implementation of green infrastructure measures is not practicable, submit a brief description of the project and the reasons green infrastructure measures were impracticable to implement (see C.3.j.ii.(2) Table A - Public Projects Reviewed for Green Infrastructure).

Background Information:

Describe how this provision is being implemented by your agency, including the process used by your agency to identify projects with potential for green infrastructure, if applicable.

Refer to BASMAA guidance on identifying and reviewing potential green infrastructure projects.

Summary of Planning or Implementation Status of Identified Projects:

See attached Tables C.3.j.ii.(2)-A and C.3.j.ii.(2)-B for the required information.

C.3.j.iii.(2) and (3) ► Participate in Processes to Promote Green Infrastructure

On an annual basis, report on the goals and outcomes during the reporting year of work undertaken to participate in processes to promote green infrastructure.

(For FY 2018-19 Annual Report only) Submit a plan and schedule for new and ongoing efforts to participate in processes to promote green infrastructure.
Please refer to SMCWPPP FY 2018/19 Annual Report for: 1) a summary of efforts conducted to help regional, State, and federal agencies plan, design and fund incorporation of green infrastructure measures into local infrastructure projects, including transportation projects; and 2) a plan and schedule for new and ongoing efforts to participate in processes to promote green infrastructure.

C.3.j.iv.(2) and (3) ► Tracking and Reporting Progress

On an annual basis, report progress on development and implementation of methods to track and report implementation of green infrastructure measures and provide reasonable assurance that wasteload allocations for TMDLs are being met.

(For FY 2018-19 Annual Report only) Submit the tracking methods used and report implementation of green infrastructure measures including treated area, and connected and disconnected impervious area on both public and private parcels within their jurisdictions.

Please refer to the SMCWPPP FY 2018/19 Annual Report for: 1) a summary of methods being developed to track and report implementation of green infrastructure measures; and 2) a report on green infrastructure measures implemented to date, including acres of impervious area (total and treated), countywide and by Permittee.

C.3.b.iv.(2) ►Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location[2], Street Address	Name of Developer	Project Phase No.[3]	Project Type & Description[4]	Project Watershed[5]	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft^2)[6]	Total Replaced Impervious Surface Area (ft^2)[7]	Total Pre-Project Impervious Surface Area[8] (ft^2)	Total Post-Project Impervious Surface Area[9] (ft^2)
Private Projects											
Hyatt Place	26 El Camino Real	Sitaram Enterprises, Inc	NA	Commercial (Hotel)	Steinberger Slough	.63	.63	12148	11304	21580	23452
25 Meridian	825-835 Industrial Road	Alexandria Real Estate Equities, Inc	NA	Commercial (Business Park)	Pulgas Creek	7.90	7.92	134568	127884	325293	262451
Public Projects											
None	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Comments:
Hyatt Place had impervious surface quantity changes from FY 17-18 Annual Report. Above information reflects final approved plans for grading permit issued in May of 2019.

[2]Include cross streets
[3]If a project is being constructed in phases, indicate the phase number and use a separate row entry for each phase. If not, enter "NA".
[4]Project Type is the type of development (i.e., new and/or redevelopment). Example descriptions of development are: 5-story office building, residential with 160 single-family homes with five 4-story buildings to contain 200 condominiums, 100 unit 2-story shopping mall, mixed use retail and residential development (apartments), industrial warehouse.
[5]State the watershed(s) in which the Regulated Project is located. Downstream watershed(s) may be included, but this is optional.
[6]All impervious surfaces added to any area of the site that was previously existing pervious surface.
[7]All impervious surfaces added to any area of the site that was previously existing impervious surface.
[8]For redevelopment projects, state the pre-project impervious surface area.
[9]For redevelopment projects, state the post-project impervious surface area.

C.3.b.iv.(2) ►Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date[10]	Application Final Approval Date[11]	Source Control Measures[12]	Site Design Measures[13]	Treatment Systems Approved[14]	Type of Operation & Maintenance Responsibility Mechanism[15]	Hydraulic Sizing Criteria[16]	Alternative Compliance Measures[17/18]	Alternative Certification[19]	HM Controls[20/21]
Private Projects										
Winding Way	September 10, 2018	January 8, 2019	Design for discharge of fire sprinkler test water to landscape or sanitary sewer	Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.	Flow-through planter	O & M Agreement	3	NA	NA	NA

[10]For private projects, state project application deemed complete date. If the project did not go through discretionary review, report the building permit issuance date.
[11]For private projects, state project application final discretionary approval date. If the project did not go through discretionary review, report the building permit issuance date.
[12]List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.
[13]List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.
[14]List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).
[15]List the legal mechanism(s) (e.g., O&M agreement with private landowner; O&M agreement with homeowners' association; O&M by public entity, etc…) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.
[16]See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).
[17]For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.
[18]For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.
[19]Note whether a third party was used to certify the project design complies with Provision C.3.d.
[20]If HM control is not required, state why not.
[21]If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), biodetention unit(s), regional detention basin, or in-stream control).

C.3.b.iv.(2) ►Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (public projects)

Project Name Project No.	Approval Date[22]	Date Construction Scheduled to Begin	Source Control Measures[23]	Site Design Measures[24]	Treatment Systems Approved[25]	Operation & Maintenance Responsibility Mechanism[26]	Hydraulic Sizing Criteria[27]	Alternative Compliance Measures[28/29]	Alternative Certification[30]	HM Controls[31/32]
Public Projects										
None	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Comments: **NA**										

[22]For public projects, enter the plans and specifications approval date.
[23]List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.
[24]List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.
[25]List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).
[26]List the legal mechanism(s) (e.g., maintenance plan for O&M by public entity, etc.) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.
[27]See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).
[28]For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.
[29]For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.
[30]Note whether a third party was used to certify the project design complies with Provision C.3.d.
[31]If HM control is not required, state why not.
[32]If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), biodetention unit(s), regional detention basin, or in-stream control).

C.3.h.v.(2). ►Table of Newly Installed[33] Stormwater Treatment Systems and Hydromodification Management (HM) Controls (Optional)

Fill in table below or attach your own table including the same information.

Name of Facility	Address of Facility	Party Responsible[34] For Maintenance	Type of Treatment/HM Control(s)
None	NA	NA	NA

[33] "Newly Installed" includes those facilities for which the final installation inspection was performed during this reporting year.
[34] State the responsible operator for installed stormwater treatment systems and HM controls.

C.3.e.v.Special Projects Reporting Table

Reporting Period – July 1 2018 - June 30, 2019

Project Name & No.	Permittee	Address	Application Submittal Date[35]	Status[36]	Description[37]	Site Total Acreage	Gross Density DU/Acre	Density FAR	Special Project Category[38]	LID Treatment Reduction Credit Available[39]	List of LID Stormwater Treatment Systems[40]	List of Non-LID Stormwater Treatment Systems[41]
Name of the Special Project and Project No. (if applicable)	Name of the Permittee in whose jurisdiction the Special Project will be built	Address of the Special Project; if no street address, state the cross streets	See footnote	See footnote	See footnote	Total site area in acres	Number of dwelling units per acre.	Floor Area Ratio	Category A: Category B: Category C: Location: Density: Parking: See footnote	Category A: Category B: Category C: Location: Density: Parking: See footnote	Indicate each type of LID treatment system and % of total runoff treated. See footnote	Indicate each type of non-LID treatment system and % of total runoff treated. Indicate whether minimum design criteria met or certification received See footnote
None	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

[35]Date that a planning application for the Special Project was submitted.
[36] Indicate whether final discretionary approval is still pending or has been granted, and provide the date or version of the project plans upon which reporting is based.
[37]Type of project (commercial, mixed-use, residential), number of floors, number of units, type of parking, and other relevant information.
[38] For each applicable Special Project Category, list the specific criteria applied to determine applicability. For each non-applicable Special Project Category, indicate n/a.
[39]For each applicable Special Project Category, state the maximum total LID Treatment Reduction Credit available. For Category C Special Projects also list the individual Location, Density, and Minimized Surface Parking Credits available.
[40]**:** List all LID stormwater treatment systems proposed. For each type, indicate the percentage of the total amount of runoff identified in Provision C.3.d. for the Special Project's drainage area.
[41]List all non-LID stormwater treatment systems proposed. For each type of non-LID treatment system, indicate: (1) the percentage of the total amount of runoff identified in Provision C.3.d. for the Special Project's drainage area, and (2) whether the treatment system either meets minimum design criteria published by a government agency or received certification issued by a government agency, and reference the applicable criteria or certification.

Special Projects Narrative

C.3.j.ii.(2) ► Table A - Public Projects Reviewed for Green Infrastructure

Project Name and Location[42]	Project Description	Status[43]	GI Included?[44]	Description of GI Measures Considered and/or Proposed or Why GI is Impracticable to Implement[45]
San Carlos Avenue Corridor Project, San Carlos Ave between Sycamore and Beverly [FY 17/18: Table A]	Assessing San Carlos Avenue for potentially adding/improving pedestrian access in this corridor.	Awarding Public Projects Agreement	Yes	Bioretention area and flow through planters were included as part of the sidewalk improvement project.
Four Corners Traffic Improvements, Alameda de las Pulgas and San Carlos Avenue between Chula Vista Drive and Dartmouth Ave [FY 17/18: Table A]	Study to review alternatives to improve traffic through the area by installing traffic controls, such as a roundabout, pavement striping, sidewalk and bike lanes.	Design phase – lead agency is the City of Belmont, but City is a stakeholder.	TBD	Study to review alternatives to improve traffic through the area by installing traffic controls, such as a roundabout, pavement striping, sidewalk and bike lanes.

C.3.j.ii.(2) ► Table B - Planned and/or Completed Green Infrastructure Projects

Project Name and Location[46]	Project Description	Planning or Implementation Status	Green Infrastructure Measures Included
Holly Street / US 101 Interchange and Ped Overcrossing	Pedestrian and bicycle overpass at the Holly Interchange with US-101. Modifications to the traffic flow at the US-101 and Holly Street interchange.	Construction postponed due to Caltrans Managed Lanes Project.	The project includes four bioretention areas to which the pedestrian overcrossing is directed.

[42] List each public project that is going through your agency's process for identifying projects with green infrastructure potential.
[43] Indicate status of project, such as: beginning design, under design (or X% design), projected completion date, completed final design date, etc.
[44] Enter "Yes" if project will include GI measures, "No" if GI measures are impracticable to implement, or "TBD" if this has not yet been determined.
[45] Provide a summary of how each public infrastructure project with green infrastructure potential will include green infrastructure measures to the maximum extent practicable during the permit term. If review of the project indicates that implementation of green infrastructure measures is not practicable, provide the reasons why green infrastructure measures are impracticable to implement.
[46] List each planned (and expected to be funded) public and private green infrastructure project that is not also a Regulated Project as defined in Provision C.3.b.ii. Note that funding for green infrastructure components may be anticipated but is not guaranteed to be available or sufficient.

Section 4 – Provision C.4 Industrial and Commercial Site Controls

Program Highlights and Evaluation
Highlight/summarize activities for reporting year:

Summary:

As of January 1, 2018, the City was responsible for conducting all stormwater business facility inspections as County Environmental Health (CEH) discontinued their inspections on December 31, 2017. The City hired a consultant to perform the remainder of the FY 17-18 inspections, and retained said consultant for the FY 18-19 inspections.

The City's potential facilities list is updated to reflect new businesses and remove closed businesses at the beginning of each fiscal year, therefore the potential facilities list was updated in July of 2018.

The City issued an RFP in April 2017 to conduct a Nexus Study to establish a C.4 inspection fee. With over 200 business inspections per year, the City is unable to provide inspections with the current available in-house resources. The City needs to recoup expenses for contracting out the C.4 inspections. In June of 2018 the results of the Nexus Study were presented to the San Carlos City Council for approval. In FY 19-20 the City will be charging an hourly fee for inspection and administration time.

The City is also a regular participant in the SMCWPPP CII Subcommittee. Please refer to the C.4. Industrial and Commercial Site Controls section of SMCWPPP's FY 2018/19 Annual Report for a description of activities of the Program.

C.4.b.iii ► Potential Facilities List (i.e., List of All Facilities Requiring Stormwater Inspections)

List below or attach your list of industrial and commercial facilities in your Inspection Plan to inspect that could reasonably be considered to cause or contribute to pollution of stormwater runoff.

The Potential Facilities List is attached as Appendix B at the end of this Annual Report. Several businesses on this list still require a site inspection to verify C.4 regulation status, and upon completion of additional site inspections, the number of businesses on the list will likely go down.

C.4.d.iii.(2)(a) & (c) ►Facility Inspections

Fill out the following table or attach a summary of the following information. Indicate your reporting methodology below.

	X	Permittee reports multiple discrete potential and actual discharges at a site as one enforcement action.
		Permittee reports the total number of discrete potential and actual discharges on each site.

	Number
Total number of inspections conducted (C.4.d.iii.(2)(a))	220
Violations, enforcement actions, or discreet number of potential and actual discharges resolved within 10 working days or otherwise deemed resolved in a longer but still timely manner (C.4.d.iii.(2)(c))	10

Comments:

The majority of enforcement actions were resolved in a timely manner. Generally verbal warnings were educational and corrected the same day, thereby not requiring a follow-up inspection. Items that required a follow-up inspection were routinely conducted within 10 days or otherwise deemed resolved in a longer, but still timely, manner, based on available resources. An example that exceeded 10 days was a business that received a violation, but then changed businesses, so completely different management; at the next follow-up no issues were found.

When the issues identified during C.4 inspections are not corrected within a timely manner, the City escalates enforcement until corrective actions are made in accordance with the City's Enforcement Response Plan. Four sites in FY 18-19 required further follow-up and enforcement.

C.4.d.iii.(2)(b) ►Frequency and Type of Enforcement Conducted

Fill out the following table or attach a summary of the following information.

	Enforcement Action (as listed in ERP)[1]	Number of Enforcement Actions Taken
Level 1	Verbal Warning / Warning Notice	13
Level 2	Notice of Violation	2
Level 3	Administrative Order	0
Level 4	Referral to Other Agency / Administrative Penalty / Legal Action	0
Total		15

[1]Agencies to list specific enforcement actions as defined in their ERPs.

C.4.d.iii.(2)(d) ► Frequency of Potential and Actual Non-stormwater Discharges by Business Category

Fill out the following table or attach a summary of the following information.

Business Category[2]	Number of Actual Discharges	Number of Potential Discharges
Corp Yard / Building Trade / Material Storage	0	7
Industrial	0	2
Manufacturing	0	1
Restaurant	3	1
Miscellaneous	0	1

C.4.d.iii.(2)(e) ►Non-Filers

List below or attach a list of the facilities required to have coverage under the Industrial General Permit but have not filed for coverage:

BAKER BROTHERS DEBRIS BOX AND RECYCLING – 500 Bragato Rd, San Carlos – Hauling and Recycling Business Type

C.4.e.iii ►Staff Training Summary

Training Name	Training Dates	Topics Covered	No. of Industrial/ Commercial Site Inspectors in Attendance	Percent of Industrial/ Commercial Site Inspectors in Attendance	No. of IDDE Inspectors in Attendance	Percent of IDDE Inspectors in Attendance
C4 Inspector Training by CSG Consultants, Inc	4/3/19 1/15/19	• Municipal Regional NPDES Permit (MRP) Basics and Changes • Stormwater Quality Protection • Outreach Material • In Field Training • Inspection Form Review • Standard Operating Procedures (SOP)s and Logistics	2	100%	0%	0%

Comments:

[2]List your Program's standard business categories.

The City contracted with CSG Consultants, Inc. to provide inspections of industrial and commercial facilities in FY 18-19. CSG Training is based on SMCWPPP trainings to ensure consistency with the countywide program, as well as the City's Business Inspection Plan (BIP) and Enforcement Response Plan (ERP) to address local SOPs and local types of businesses.

City Staff provides IDDE response, and contracts with CSG Consultants for assistance with follow-up when the IDDE occurs at a commercial site or business facility. For commercial/ retail sites that have an IDDE, they are added to the C4 Business Master Facilities List for at least one year, and receive a C4 Stormwater Inspection the following fiscal year.

Section 5 – Provision C.5 Illicit Discharge Detection and Elimination

Program Highlights and Evaluation
Highlight/summarize activities for reporting year:

Provide background information, highlights, trends, etc.

Summary:

Highlights from FY 2018 – 2019 reporting year include:

- **Continued active participation in the Commercial, Industrial and Illicit Discharge (CII) Subcommittee.**
- **Storm water inspections at commercial facilities to detect and eliminate potential illicit discharges.**

When the City receives a report of a potential illicit discharge from the public, City staff immediately visit the site to verify the potential illicit discharge, and then trace it back to its' source. The City then contacts the property owner, issues enforcement actions, provides cleanup suggestions, or directly preforms the needed cleanup if the property owner or tenant is unable to in a timely manner to stop an active discharge (the property owner is invoiced for these emergency cleanup services). After any issue has been identified and logged, the City performs a follow-up inspection to confirm that the issue has been resolved.

Activities at the countywide or regional level are listed in the C.5 Illicit Discharge Detection and Elimination section of the SMCWPPP FY 18-19 Annual Report.

C.5.c.iii ►Complaint and Spill Response Phone Number

Summary of any changes made during FY 18-19.

No Change

C.5.d.iii.(1), (2), (3) ►Spill and Discharge Complaint Tracking

Spill and Discharge Complaint Tracking (fill out the following table or include an attachment of the following information)

	Number
Discharges reported (C.5.d.iii.(1))	5
Discharges reaching storm drains and/or receiving waters (C.5.d.iii.(2))	2
Discharges resolved in a timely manner (C.5.d.iii.(3))	2

Comments:

Not all reported discharges were actual discharges, the City received three complaints this year that were not substantiated.

For the two that were actual illicit discharges. Once the issues were identified, and if they are not corrected within a timely manner, the City escalates enforcement until corrective actions are made in accordance with the City's Enforcement Response Plan.

The City conducts illicit discharge detection and elimination according to the following procedures:

1. Respond to the complaint or observed illicit discharge immediately, if possible, but not later than 24 hours.

2. Identify the spill and source.

3. Take a picture of the spill and location.

4. Endeavor to cease the spill, utilizing City forces and equipment if onsite personnel are not sufficient to immediately cease the spill.

5. If it is not possible to cease the spill, minimize the impacts of the spill through the use of temporary cofferdams or other measures to stop the spill spread and cease discharge to the storm drain system.

6. Once the spill is contained or ceased, document the illicit discharge in the City's Code Tracking System.

7. Take a picture of the site once the spill is contained or ceased.

8. Identify the responsible party.

9. Contact the responsible party to follow-up and ensure permanent corrective actions are completed within 10 business days of the illicit discharge discovery.

10. Conduct enforcement in accordance with the City's enforcement procedures.

C.5.e.iii.(2) ►Control of Mobile Sources

(a) Provide changes to your agency's minimum standards and BMPs for each of the various types of mobile businesses since the 2017 Annual Report (C.5.e.iii.(2)(a)))

The City follows the minimum standards and BMPs described in the "Best Management Practices for Mobile Businesses" fact sheet recently updated by the SMCWPPP CII Subcommittee in April 2019 for the following mobile business categories: automobile washers/detailers, power washers, carpet cleaners, steam cleaners, pet care services. The format of the fact sheet was update but there have been no changes to the BMPs since the 2017 Annual Report.

(b) Provide changes to your agency's enforcement strategy for mobile businesses (C.5.e.iii.(2)(b)

There were no changes to the City's enforcement strategy for mobile businesses, as the City did not received any mobile discharge complaints this fiscal year. Since FY 2013/14, SMCWPPP's enforcement strategy has been to track mobile business enforcement actions from SMCWPPP permittees in a table available on the SMCWPPP CII members only webpage. The tracking table is periodically updated.

(c) Provide minimum standards and BMPs developed for additional types of mobile businesses addressed since 2017 Annual Report (C.5.e.iii.(2)(c)

SMCWPPP has not developed minimum standards and BMPs for additional types of mobile businesses other than those described in (a) above.

(d) Provide a list and summary of the specific outreach events and education conducted to each type of mobile business operating within your jurisdiction during the Permit term (C.5.e.iii.(2)(d):
Refer to the C.5 Illicit Discharge Detection and Elimination section of SMCWPPP's FY 2018/19 Annual Report for a description of activities at the countywide or regional level.
(e) Discuss inspections conducted at mobile businesses and/or job sites (C.5.e.iii.(2)(e)
Mobile businesses are inspected in response to illicit discharge complaints and tracked through the IDDE program.
(f) List below or attach the list of mobile businesses operating within your agency's jurisdiction (C.5.e.iii.(2)(f))
In FY 2016/17 SMCWPPP compiled an inventory of mobile businesses located in Santa Mateo County. The inventory was developed by reviewing lists provided by individual agencies, yellow page searches and online business searches. The inventory includes automotive washing, steam cleaning, power washing, pet care services and carpet cleaning mobile businesses. The inventory is periodically updated with mobile businesses stormwater inspectors observe during routine field activities, including responding to illicit discharges. The inventory is made available to all San Mateo County Permittees on the SMCWPPP CII members only webpage. The inventory is included in SMCWPPP's FY 2018/19 Annual Report and currently has approximately 175 mobile businesses.
(g) Discuss enforcement actions taken against mobile businesses during the Permit term (C.5.e.iii.(2)(g))
Enforcement actions are typically taken in response to a complaint or illicit discharge through our IDDE Program. Enforcement actions are tracked in the municipality's spill and discharge complaint tracking system required by MRP C.5.d.ii. This FY there were zero enforcement actions taken for mobile businesses.

C.5.f.iii ►MS4 Map Availability

Discuss how you make your MS4 map available to the public and how you publicize the availability of the MS4 map.
MS4 maps are available to the public on the Oakland Museum Creek Mapping Project website (http://explore.museumca.org/creeks/crkmap.html). The SMCWPPP website, flowstobay.org, also has a link to the Oakland museum maps.

Section 6 – Provision C.6 Construction Site Controls

C.6.e.iii.(3)(a), (b), (c), (d) ►Site/Inspection Totals

Number of active Hillside Sites (sites disturbing < 1 acre of soil requiring storm water runoff quality inspection) (C.6.e.iii.3.a)	**Number of High Priority Sites (sites disturbing < 1 acre of soil requiring storm water runoff quality inspection)** (C.6.e.iii. 3.c)	**Number of sites disturbing ≥ 1 acre of soil** (C.6.e.iii.3.b)	**Total number of storm water runoff quality inspections conducted (include only Hillside Sites, High Priority Sites and sites disturbing 1 acre or more)** (C.6.e.iii. 3.d)
# **4**	# **1**	# **3**	# **51**

Comments:

Not every site was active during the entire rainy season, one project completed in November, another in January, which is why the total number of inspections is not equal to 56 (the number of months from October through April multiplied by the 8 total sites). All sites were inspected monthly when construction was taking place. Active meaning construction, grading, or site disturbance was taking place. Inactive sites are those which have not yet started construction, or construction is complete. The City considers sites which have temporarily stopped construction to be "active" for the purposes of C.6 inspections.

Staff continually monitor all construction and development within the City to ensure that stormwater regulations are followed, including sites which do not fit into the above categories, and fills out the C.6 forms for these sites on a case-by-case basis.

Provide the number of inspections that are conducted at sites not within the above categories as part of your agency's inspection program and a general description of those sites, if available or applicable.

Information not available.

C.6.e.iii.(3)(e) ►Construction Related Storm Water Enforcement Actions

	Enforcement Action (as listed in ERP)[1]	Number Enforcement Actions Issued
Level 1[2]	Verbal Warning / Warning Notice	24
Level 2	Notice of Violation	0
Level 3	Administrative Order (Stop Work Order)	0
Level 4	Referral to Other Agency / Administrative Penalty / Legal Action	0
Total		**24**

C.6.e.iii.(3)(f), ►Illicit Discharges

	Number
Number of illicit discharges, actual and those inferred through evidence at hillside sites, high priority sites and sites that disturb 1 acre or more of land (C.6.e.iii. 3.f)	0

C.6.e.iii.(3)(g) ► Corrective Actions

Indicate your reporting methodology below.

X	Permittee reports multiple discrete potential and actual discharges at a site as one enforcement action.
	Permittee reports the total number of discrete potential and actual discharges on each site.

	Number
Enforcement actions or discrete potential and actual discharges fully corrected within 10 business days after violations are discovered or otherwise considered corrected in a timely period (C.6.e.iii. .3.g)	24

Comments:
All issues were corrected within 10 business days.

[1]Agencies should list the specific enforcement actions as defined in their ERPs.
[2]For example, Enforcement Level 1 may be Verbal Warning.

C.6.e.iii.(4) ►Evaluation of Inspection Data

Describe your evaluation of the tracking data and data summaries and provide information on the evaluation results (e.g., data trends, typical BMP performance issues, comparisons to previous years, etc.).

Description:

This year's most common potential discharge issues fell under sediment control issues; examples being the construction entrance not maintained or swept, silt fences / waddles requiring maintenance or repair, or keeping inlet filters clean. Other typical issues varied from erosion control issues soil stockpiles not covered to site management issues (poor housekeeping). The problems identified were on various sites, rather than concentrated at one site in particular.

C.6.e.iii.(4) ►Evaluation of Inspection Program Effectiveness

Describe what appear to be your program's strengths and weaknesses, and identify needed improvements, including education and outreach.

Description:

The City ensures the BMP plan sheet is incorporated with all construction plans sets prior to issuance of a Building Permit. City inspectors are responsible for ensuring that the BMPs are being implemented per plan by conducting routine site inspections. Contractors working in San Carlos at this point are familiar with what BMPs should be implemented. The inspector this year was very strict during the first October inspection, with 6 out of 8 sites requiring a follow up inspection that month, but this drove the message home with contractors and most were much better the rest of the wet season in comparison to previous years.

The City also participated in the BASMAA New Development Committee. And please refer to the C.6 Construction Site Control section of the SMCWPPP's FY 2018/19 Annual Report for a description of activities at the Program or regional level.

C.6.f.iii ►Staff Training Summary

Training Name	Training Dates	Topics Covered	No. of Inspectors in Attendance
None	NA	NA	NA

Section 7 – Provision C.7. Public Information and Outreach

C.7.b.i.1 ►Outreach Campaign

Summarize outreach campaign. Include details such as messages, creative developed, and outreach media used. The detailed outreach campaign report may be included as an attachment. If outreach campaign is being done by participation in a countywide or regional program, refer to the separate countywide or regional Annual Report.

Summary:

- **The City participates in the countywide Public Information and Participation subcommittee meetings.**
- **The City of San Carlos promotes Countywide events through our City social media networks.**
- **The City of San Carlos has included stormwater awareness promotional materials at many Citywide events and had a representative to discuss resident comments and questions regarding stormwater.**
- **The City website also has a dedicated page on stormwater (**https://www.cityofsancarlos.org/stormwater) **that includes direct links to the SMCWPPP website (**flowstobay.org**) and the NPDES information page (**www.epa.gov/npdes**)**
- **See Section 7 and Section 9 of the SMCWPPP FY 2018/19 Annual Report for a description of outreach campaign activities conducted at the countywide level.**

C.7.c. Stormwater Pollution Prevention Education

No change.

C.7.d ►Public Outreach and Citizen Involvement Events

Describe general approach to event selection. Provide a list of outreach materials and giveaways distributed.
Use the following table for reporting and evaluating public outreach events
See Section 7 of the SMCWPPP FY 2018/19 Annual Report for a description of public outreach and citizen involvement events activities conducted at the countywide level.

Event Details	**Description** (messages, audience)	**Evaluation of Effectiveness**
Provide event name, date, and location. Indicate if event is local, countywide or regional. Indicate if event is public outreach or citizen involvement.	Identify type of event (e.g., school fair, creek clean-up, storm drain stenciling, farmers market etc.), type of audience (school children, gardeners, homeowners etc.) and outreach messages (e.g., Enviroscape presentation, pesticides, stormwater awareness)	Provide general staff feedback on the event (e.g., success at reaching a broad spectrum of the community, well attended, good opportunity to talk to gardeners etc.). Provide other details such as: • Success at reaching a broad spectrum of the community • Number of participants compared to previous years. • Post-event effectiveness assessment/evaluation results • Quantity/volume of materials cleaned up, and comparisons to previous efforts
San Carlos weekly Farmer's Market takes place every Sunday year round from 10AM to 2PM in downtown San Carlos (700 block of Laurel Street)	Local farmers' market attracting families and shoppers. Primary outreach messages emphasized Too Toxic to Trash guides, children's materials, Our Water Our World, Dirty Dozen/Clean Fifteen.	This is a great event to conduct outreach as a wide variety of residents and non-residents attend fairly frequently so the handouts and information are reaching a broad group who are also eager to know more about green practices. Attendance data is not available.
City of San Carlos Earth Day Cleanup Event, Saturday April 22, 2019 at Laurel Street and Harrington Park	San Carlos Earth day cleanup event is open to residents and any other interested community members. The event included a volunteer cleanup on Laurel Street. The City organized the event and provided gloves, bags, and trash disposal.	This was the fourth year San Carlos conducted this event. This year volunteers picked up trash all along Laurel Street, which is the City's main downtown corridor.
Annual Creek Clean-Up, September 15, 2018	The City mails a Creek Cleanup brochure to residents with property that have creek	Our maintenance department picked up 6 yards of assorted debris waste this year.

	frontage along Brittan, Pulgas, and Cordilleras Creeks. The City encourages property owners to clean the creeks up on the same day as the California Coastal Cleanup Day.	Attendance was limited to the property owners that front the privately owned creek banks.

C.7.e. ►Watershed Stewardship Collaborative Efforts

Summarize watershed stewardship collaborative efforts and/or refer to a regional report that provides details. Describe the level of effort and support given (e.g., funding only, active participation etc.). State efforts undertaken and the results of these efforts. If this activity is done regionally refer to a regional report.

Evaluate effectiveness by describing the following:

- Efforts undertaken
- Major accomplishments

Summary:

See Section 7 of the SMCWPPP FY 2018/19 Annual Report for a description of watershed stewardship collaborative efforts conducted at the countywide level.

C.7.f. ►School-Age Children Outreach

Summarize school-age children outreach programs implemented. A detailed report may be included as an attachment.

Use the following table for reporting school-age children outreach efforts.

See Section 7 of the SMCWPPP FY 2018/19 Annual Report for a description of school-age children outreach efforts conducted at the countywide level.

Program Details	Focus & Short Description	Number of Students/Teachers reached	Evaluation of Effectiveness
Provide the following information: Name Grade or level (elementary/ middle/ high)	Brief description, messages, methods of outreach used	Provide number or participants	Provide agency staff feedback. Report any other evaluation methods used (quiz, teacher feedback etc.). Attach evaluation summary if applicable.
NA _ Refer to the SMCWPPP FY 18-19 Annual Report	NA	NA	NA

Section 9 – Provision C.9 Pesticides Toxicity Controls

C.9.a. ►Implement IPM Policy or Ordinance

Is your municipality implementing its IPM Policy/Ordinance and Standard Operating Procedures?	X	**Yes**		**No**

If no, explain: **NA**

Report implementation of IPM BMPs by showing trends in quantities and types of pesticides used, and **suggest reasons for increases in use of pesticides** that threaten water quality, specifically organophosphates, pyrethroids, carbamates fipronil, indoxacarb, diuron, and diamides. A separate report can be attached as evidence of your implementation.

Trends in Quantities and Types of Pesticide Active Ingredients Used[1]

Pesticide Category and Specific Pesticide Active Ingredient Used	**Amount**[2]					
	FY 15-16	**FY 16-17**	**FY 17-18**	**FY 18-19**	**FY 19-20**	**FY 20-21**
Organophosphates	0	0	0	0		
Active Ingredient Chlorpyrifos	0	0	0	0		
Active Ingredient Diazinon	0	0	0	0		
Active Ingredient Malathion	0	0	0	0		
Pyrethroids (see footnote #57 for list of active ingredients)	0	0	0	0		
Active Ingredient Type X	0	0	0	0		
Active Ingredient Type Y	0	0	0	0		
Carbamates	0	0	0	0		
Active Ingredient Carbaryl	0	0	0	0		
Active Ingredient Aldicarb	0	0	0	0		
Fipronil	0	0	0	0		

[1]Includes all municipal structural and landscape pesticide usage by employees and contractors.
[2]Weight or volume of the active ingredient, using same units for the product each year. Please specify units used. The active ingredients in any pesticide are listed on the label. The list of active ingredients that need to be reported in the pyrethroids class includes: metofluthrin, bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambdacyhalothrin, and permethrin.

Pesticide Category and Specific Pesticide Active Ingredient Used	Amount					
	FY 15-16	**FY 16-17**	**FY 17-18**	**FY 18-19**	**FY 19-20**	**FY 20-21**
Indoxacarb	Reporting not required in FY 15-16	0	0	0		
Diuron	Reporting not required in FY 15-16	0	0	0		
Diamides	Reporting not required in FY 15-16	0	0	0		
Active Ingredient Chlorantraniliprole		0	0	0		
Active Ingredient Cyantraniliprole		0	0	0		

Reasons for increases in use of pesticides that threaten water quality:

No change, not applicable.

IPM Tactics and Strategies Used:

- Non-chemical strategies such as monitoring, mowing weeds, and mulching. Mulch is used in all developed parks and City medians, and is refreshed regularly.
- Removal of plants that require frequent pesticide applications.
- Banning pesticides in two City parks (Vista Park and Cedar Park).
- Conducting investigations of the existing and scope of pest infestations.
- Removing food sources when possible, and placing baits or traps when removal of food sources is not possible (such as near dumpster areas).
- Preventive actions such as sealing holes or gaps in structures and improving sanitation.
- Use of baits and traps instead of broadcast pesticides.
- Monitor pesticide and pest control contractors in the field, through spot checks.

C.9.b ►Train Municipal Employees

Enter the number of employees that applied or used pesticides (including herbicides) within the scope of their duties this reporting year.	0
Enter the number of these employees who received training on your IPM policy and IPM standard operating procedures within this reporting year.	0
Enter the percentage of municipal employees who apply pesticides who have received training in the IPM policy and IPM standard operating procedures within this reporting year.	0% N/A

Type of Training:

No City employees applied pesticides within FY 18-19, but two City staff received IPM training. Local tailgate meetings are held for staff to train on the IPM policy and IPM standard operating procedures. In addition, staff attended PAPA's IPM training class on October 24, 2018 as well as the one on June 12, 2019.

C.9.c ►Require Contractors to Implement IPM

Did your municipality contract with any pesticide service provider in the reporting year, for either landscaping or structural pest control?	X	**Yes**		**No**
If yes, did your municipality evaluate the contractor's list of pesticides and amounts of active ingredients used?	X	**Yes**		**No,**

If your municipality contracted with any pesticide service provider, briefly describe how contractor compliance with IPM Policy/Ordinance and SOPs was monitored

The City does contract with pesticide service providers:

1. **Provider #1 applies minimal pesticides in the City's developed parks, and last year, only applied fertilizer. The fertilizer contained no pesticides in the categories which are tracked in Table C.9.a.**
2. **Provider #2 manages landscaped medians; and only applies RoundUp (glyphosate) when necessary.**
3. **An arborist assesses the downtown trees each year. Typically, in alternating years, selected trees are treated between January and March for aphids. The aphids increase sap production, and the arborist identifies which trees need treatment based their sap production. An application was applied in March of 2018 and subsequently in 2019 due to an irregular infestation. The arborist determined the need for an application in back to back years.**
4. **Provider #3 deals with rodents and other pests. They use baits or traps as opposed to chemicals to control pests.**
5. **Provider #4 is on contract to control invasive plant species in a drainage channel across from Holly and Industrial. They apply an aquatic pesticide called AquaNeat (glyphosate) when needed. No application was applied in FY 18-19.**

All contractors are provided a copy of the City's IPM policy. The City provides direction to the contractors, and organizes monthly (or sometimes weekly, if needed) meetings to discuss maintenance strategies and activities. The contractors provide daily usage reports, which are submitted monthly for City staff review. City staff send the usage reports to the County Agricultural Commissioner. Before applying any pesticides, the contractors must provide a Notice of Intent including the types of pesticides to be used. City staff perform spot checks of the contractor operations during application to confirm that the reporting is consistent with the field activities.

The City of San Carlos uses very few pesticides or chemicals to control pests or weeds. Mulch is used in all City parks and medians to limit the need for chemicals, and in two parks, the use of pesticides is banned (Vista Park, which is undeveloped, and Cedar Park, which is developed).
When pesticides are used, it is typically only in extreme cases, such as to provide access to the City's easements. The City's pest contractor only uses baits and traps (as opposed to chemicals) to control pests, and provides reports to City staff notifying whether holes need to be plugged or caulked. The City contracts with a separate contractor to plug or caulk holes to eliminate pest entry. City staff also removed excessive foliage in pest prone areas, to remove potential nesting for rodents.

C.9.d ►Interface with County Agricultural Commissioners

Did your municipality communicate with the County Agricultural Commissioner to: (a) get input and assistance on urban pest management practices and use of pesticides or (b) inform them of water quality issues related to pesticides,	X	Yes		No

If yes, summarize the communication. If no, explain.

City staff communicated via telephone with County Agricultural staff to determine if a site inspection was needed. Because the City has not been using pesticides and has therefore temporarily suspended our pesticide application program, a site visit was not deemed necessary. County Agricultural staff requested City Staff to notify them upon reinstating the program, at which point a site visit would be scheduled.

See Section 9 of the SMCWPPP FY 2018/19 Annual Report for a summary of the Countywide Program's coordination with the San Mateo County Agricultural Commissioner.

Did your municipality report any observed or citizen-reported violations of pesticide regulations (e.g., illegal handling and applications of pesticides) associated with stormwater management, particularly the California Department of Pesticide Regulation (DPR) surface water protection regulations for outdoor, nonagricultural use of pyrethroid pesticides by any person performing pest control for hire.		**Yes**	**X**	**No**

If yes, provide a summary of improper pesticide usage reported to the County Agricultural Commissioner and follow-up actions taken to correct any violations. A separate report can be attached as your summary. **NA**

C.9.e.ii (1) ►Public Outreach: Point of Purchase

Provide a summary of public outreach at point of purchase, and any measurable awareness and behavior changes resulting from outreach (here or in a separate report); **OR** reference a report of a regional effort for public outreach in which your agency participates.

Summary:

See Section 9 of the SMCWPPP FY 2018/19Annual Report for a description of point of purchase public outreach efforts conducted at the countywide level and regionally.

C.9.e.ii (2) ►Public Outreach: Pest Control Contracting Outreach

Provide a summary of outreach to residents who use or contract for structural pest control and landscape professionals); **AND/OR** reference a report of a regional effort for outreach to residents who hire pest control and landscape professionals in which your agency participates.

Summary:

See Section 9 of the SMCWPPP FY 2018/19 Annual Report for a summary of outreach to residents who hire pest control and landscape professionals.

C.9.e.ii.(3) ►Public Outreach: Pest Control Operators

Provide a summary of public outreach to pest control operators and landscapers and reduced pesticide use (here or in a separate report); **AND/OR** reference a report of a regional effort for outreach to pest control operators and landscapers in which your agency participates.

Summary:

See Section 9 of the SMCWPPP FY 2018/19 Annual Report for a summary of the Countywide Program's outreach to pest control operators and landscapers to reduce pesticide us.

C.9.f ►Track and Participate in Relevant Regulatory Processes

Summarize participation efforts, information submitted, and how regulatory actions were affected; **AND/OR** reference a regional report that summarizes regional participation efforts, information submitted, and how regulatory actions were affected.

Summary:

During FY 2018/19, we participated in regulatory processes related to pesticides through contributions to the Countywide Program, BASMAA and CASQA. For additional information, see the regional report submitted by BASMAA on behalf of all MRP Permittees.

C.9.g. ► Evaluate Implementation of Pesticide Source Control Actions

(For FY 18-19 Annual Report only) Submit an evaluation that assesses; 1) the effectiveness of IPM efforts required in Provisions C.9.a-e and g, 2) a discussion of any improvements made in the past five years; 3) any changes in water quality regarding pesticide toxicity in urban creeks; and 4) a brief description of one or more pesticide-related area(s) the Permittee will focus on enhancing during the subsequent permit term.

Summary:

See the appendices to SMCWPPP's FY 2018/19 Annual Report for a report that includes the following:

- **An evaluation of the effectiveness of source control measures for pesticides and toxicity that have been implemented;**
- **An evaluation of water quality in relation to pesticides and toxicity in urban creeks;**
- **Improvements made to the City's IPM Program during this permit term; and**
- **Pesticide-related areas that the City will focus on enhancing during the next permit term.**

Section 10 - Provision C.10 Trash Load Reduction

C.10.a.i ► Trash Load Reduction Summary

For population-based Permittees, provide the overall trash reduction percentage achieved to-date within the jurisdictional area of your municipality that generates problematic trash levels (i.e., Very High, High or Moderate trash generation). Base the reduction percentage on the information presented in C.10.b i-iv and C.10.e.i-ii. Provide a discussion of the calculation used to produce the reduction percentage

Trash Load Reductions	
Percent Trash Reduction in All Trash Management Areas (TMAs) due to **Trash Full Capture Systems** (as reported C.10.b.i)	68.5%
Percent Trash Reduction in all TMAs due to **Control Measures Other than Trash Full Capture Systems** (as reported in C.10.b.ii)[1]	2.5%
Percent Trash Reduction due to **Jurisdictional-wide Source Control Actions** (as reported in C.10.b.iv)	10.0%
Subtotal for Above Actions	**81.0%**
Trash Offsets (Optional)	
Offset Associated with Additional Creek and Shoreline Cleanups (as reported in C.10.e.i)	0.0%
Offset Associated with Direct Trash Discharges (as reported in C.10.e.ii)	0.0%
Total (Jurisdictional-wide) % Trash Load Reduction through FY 2018-19	**81.0%**

Discussion of Trash Load Reduction Calculation and Attainment of the 80% Mandatory Deadline:

The City attained and reported an 80.9% trash load reduction (including trash offsets) in its FY 17-18 Annual Report. During FY 18-19, the City continued to implement a robust trash control measure program. This helped the City maintain its trash load reduction above the mandatory 80% trash load reduction requirement included in the MRP. The total (jurisdiction-wide) percent trash load reduction in FY 18-19 is 81.0%. The most recent version of the City's Baseline Trash Generation Map can be downloaded at http://www.flowstobay.org/content/municipal-trash-generation-maps.

[1] See Appendix 10-1 for changes between 2009 and FY 18-19 in trash generation by TMA as a result of Full Capture Systems and Other Measures.

C.10.a.iii ► Mandatory Trash Full Capture Systems

Provide the following:

1) Total number and types of full capture systems (publicly and privately-owned) installed prior to FY 18-19, during FY 18-19, and to-date, including inlet-based and large flow-through or end-of-pipe systems, and qualifying low impact development (LID) required by permit provision C.3.
2) Total land area (acres) treated by full capture systems for population-based Permittees and total number of systems for non-population based Permittees compared to the total required by the permit.

Type of System	# of Systems	Areas Treated (Acres)
Installed in FY 18-19		
None	-	-
Installed Prior to FY 18-19		
Connector Pipe Screens (Public)	221	440.2
Devices installed by bordering Permittees with treatment areas extending into the City of San Carlos	-	10.9
Inlet Filter Baskets (Public)	27	25.5
Total for all Systems Installed To-date	**248**	**476.7**
Treatment Acreage Required by Permit (Population-based Permittees)		**39**
Total # of Systems Required by Permit (Non-population-based Permittees)		**N/A**

C.10.b.i ► Trash Reduction - Full Capture Systems

Provide the following:

1) Jurisdictional-wide trash reduction in FY 18-19 attributable to trash full capture systems implemented in each TMA;
2) The total number of full capture systems installed to-date in your jurisdiction;
3) The percentage of systems in FY 18-19 that exhibited significant plugged/blinded screens or were >50% full when inspected or maintained;
4) A narrative summary of any maintenance issues and the corrective actions taken to avoid future full capture system performance issues; and
5) A certification that each full capture system is operated and maintained to meet the full capture system requirements in the permit.

TMA	Jurisdiction-wide Reduction (%)	Total # of Full Capture Systems	% of Systems Exhibiting Plugged/Blinded Screens or >50% full in FY 18-19	Summary of Maintenance Issues and Corrective Actions
1	38.5%	248	<12%	30 connector pipe screens were found to be plugged/blinded or >50% full. The City aims to clean all full capture systems a minimum of three times per year. When a system is found to be plugged/blinded or more than 50% full, the cleaning frequency is increased in accordance with the MRP. The City keeps all devices clean with in house staff servicing.
2	1.7%			
3	24.5%			
4	0.4%			
5	3.3%			
6	0.0%			
7	0.0%			
Total	**68.5%**			

Certification Statement:

The City of San Carlos certifies that a full capture system maintenance and operation program is currently being implemented to maintain all applicable systems in manner that meets the full capture system requirements included in the Permit.

C.10.b.ii ► Trash Reduction – Other Trash Management Actions (PART A)

Provide a summary of trash control actions other than full capture systems or jurisdictional source controls that were implemented within each TMA, including the types of actions, levels and areal extent of implementation, and whether actions are new, including initiation date.

TMA	Summary of Trash Control Actions Other than Full Capture Systems
1	(1) Street sweeping is performed twice a week in this TMA. Areas in the downtown corridor with bulb-out curbs are hand swept or blown ahead of the sweeper to ensure all trash is collected from the curb. This level of sweeping will continue in the future. (2) On-land trash cleanups are conducted weekly, focusing on the high traffic areas and City parking lots. The City parking lots include Clark Plaza, Williams Plaza, Wheeler Plaza and South Plaza and the high traffic areas are Laurel Street, Cowgill Alley and El Camino Real. We will continue to perform cleanups, evaluate this effort and increase the frequency or the size of the area within the TMA as needed to work in conjunction with the other implemented trash control measures, or until full trash capture devices are installed. Volunteer-led on land cleanups occur several times a year. (3) All catch basins are inspected and cleaned a minimum of twice per year. This level of cleaning will continue into the future. The frequency of cleaning was evaluated and determined to be effective for the TCD equipped catch basins in this TMA. Full trash capture devices are cleaned a minimum of three times per year. (4) Trash Bin Container Management: All City owned downtown trash bins in this TMA have been replaced with a dual can model with separate bins for trash and recycling. The City added an additional six (6) dual can models, bringing our total to 36 in this TMA.
2	1) The City conducts monthly permittee-led on-land clean ups. Volunteer-led on-land cleanups will be encouraged for this TMA, and will be reported on annually. 2) Street sweeping is performed once a week in this TMA. Parking enforcement equivalent occurs in these commercial areas due to no parking allowed. This level of sweeping will continue into the future. This level of sweeping was evaluated and determined to be sufficient.
3	(1) We are continuing permittee-led on-land clean ups. (2) All catch basins are inspected and cleaned a minimum of twice per year. This level of cleaning will continue into the future. The City evaluated the current frequency in this permit term and determined it to be sufficient. Maintenance is performed on the TCD's in this TMA at least three times per year. (3) Street sweeping is performed once a week in this TMA. This level of sweeping was performed pre-MRP, continues post-MRP and will continue into the future. This level of sweeping was evaluated and determined to be sufficient.
4	(1) On-land trash cleanups are performed in this TMA. We will continue to evaluate this effort along with the enhanced storm drain maintenance. Volunteer-led on-land cleanups are encouraged for this TMA. (2) All catch basins are inspected and cleaned a minimum of twice per year. This level of cleaning will continue into the future. The frequency of these cleanings was evaluated and determined to be effective. (3) Street sweeping is performed once a week in this TMA. Parking enforcement equivalent occurs on all major arterial roads near commercial areas due to no parking allowed which does include this entire TMA and allows sweeping to the curb. This level of sweeping will continue into the future. This level of sweeping was evaluated and determined to be effective.

5	(1) We are continuing permittee-led on-land trash clean-ups. Volunteer-led on-land cleanups are encouraged in this TMA. (2) All catch basins are inspected and cleaned a minimum of twice per year. This level of cleaning will continue into the future. We evaluated the frequency of cleanings and determined it to be sufficient in this TMA. (3) Street sweeping is performed twice a month in this TMA. Parking enforcement signs for street sweeping are not posted in the City. This level of sweeping will continue into the future. This level of sweeping was evaluated and determined to be sufficient.
6	(1) We have continued permittee-led on-land clean ups. Volunteer-led on-land cleanups are encouraged for this TMA. (2) All catch basins are inspected and cleaned a minimum of twice per year. This level of cleaning was performed pre-MRP, continue post-MRP, and will continue into the future. This level of cleaning was evaluated and determined to be sufficient. (3) Street sweeping is performed once a month in this TMA. This level of sweeping will continue into the future. Parking enforcement equivalent occurs on all major arterial roads near commercial areas due to no parking allowed, which does include this TMA and allows sweeping to the curb. This level of sweeping was evaluated and determined to be sufficient.
7	1) Street sweeping is performed once or twice a month in this TMA. The hill areas in the western portion are swept monthly. The flat areas between the downtown corridor and the hills are swept twice a month. This level of sweeping will continue into the future. Parking enforcement signs for street sweeping are not posted in the City. 2) Volunteer-led on land cleanups occur several times a year. 3) All catch basins are inspected and cleaned a minimum of once per year. This level of cleaning will continue into the future. This level of cleaning was evaluated and determined to be sufficient.

Summary of Trash Control Measures Other than Full Capture Devices:

- **Street Sweeping:** Include a description of any enhancements or new actions implemented after the MRP 1.0 effective date (i.e., December 2009). Identify portions of the TMA where enhanced street sweeping (i.e., increased sweeping frequency) and parking enforcement above 2009 levels was implemented.
- **On-land Cleanup:** Include a description of on-land cleanup activities that began after the MRP 1.0 effective date (i.e., December 2009) and continued into FY 18-19, including any enhancements or new actions implemented in FY 18-19. Describe if these actions are Permittee or volunteer-led.
- **Partial Capture Devices:** Provide a description of devices installed after the MRP 1.0 effective date (i.e., December 2009). Describe the level of maintenance conducted per device types.
- **Storm Drain Inlet Cleaning:** Describe storm drain inlet maintenance activities implemented after the MRP 1.0 effective date (i.e., December 2009) and continued in FY 18-19, including any enhancements or new maintenance activities implemented in FY 18-19. For new/enhanced actions, include the number of inlets where enhanced maintenance occurred, and the increased frequency of maintenance.
- **Uncovered Loads:** Describe activities designed to reduce trash from uncovered loads that began after the MRP 1.0 effective date (i.e., December 2009) and continued in FY 18-19, including any enhancements or new actions implemented in FY 18-19. Describe the types of actions implemented including new or redirected enforcement efforts to increase the focus towards new or enhanced actions.

- **Anti-littering and illegal dumping enforcement activities:** Describe anti-littering and illegal dumping enforcement activities began after to the MRP 1.0 effective date (i.e., December 2009) and continued in FY 18-19, and any enhancements or new actions implemented in FY 18-19. Include any new or redirected enforcement efforts to increase the focus towards new or enhanced actions. Describe the number of citations or other correction actions accomplished this year, and compare with previous years. Indicate how anti-littering and illegal dumping enforcement records are kept, and how they may be retrieved for audit.
- **Improved Trash Bin/Container Management:** Describe activities designed to improve trash bin/container management that began after the MRP1.0 effective date (i.e., December 2009) and continued in FY 18-19, and any enhancements or new actions implemented in FY 18-19. Include any new or redirected efforts to increase the focus towards these new or enhanced actions.
- **Other Types of Actions:** Describe activities designed after the MRP effective date (i.e., December 2009) and continued in FY 18-19, and any enhancements or new (post December 2009 effective date) actions implemented in FY 18-19.

C.10.b.ii ► Trash Reduction – Other Trash Management Actions (PART B)

Provide the following:

1) A summary of the on-land visual assessments in each TMA (or control measure area), including the street miles or acres available for assessment (i.e., those associated with VH, H, or M trash generation areas not treated by full capture systems), the street miles or acres assessed, the % of available street miles or acres assessed, and the average number of assessments conducted per site within the TMA; and
2) Percent jurisdictional-wide trash reduction in FY 18-19 attributable to trash management actions other than full capture systems implemented in each TMA; OR
3) Indicate that no on-land visual assessments were performed.

If no on-land visual assessments were performed, check here **and state why:**	X	**Explanation:** No OVTAs were conducted in TMA #1,2, 3, or 7 in FY 18-19 because no additional/enhanced other control measures have taken place to-date and/or there is limited street length remaining to conduct street/sidewalk assessments.

TMA ID or *(as applicable)* Control Measure Area	**Total Street Miles[2] Available for Assessment**	**Summary of On-land Visual Assessments[3]**			**Jurisdictional-wide Reduction (%)**
		Street Miles Assessed	**% of Available Street Miles Assessed**	**Avg. # of Assessments Conducted at Each Site[4,5]**	
1	0.25	0.0	0%	0.0	0%
2	0.17	0.0	0%	0.0	0%
3	1.69	0.0	0%	0.0	0%
4	0.44	0.19	44.0%	5.0	0%
5	0.45	0.18	39.7%	5.0	2.05%
6	0.20	0.20	100.0%	5.0	0.45%
7	0.02	0.0	0%	0.0	0%
	Total	**0.57**	**-**	**-**	**2.5%**

[2] Street miles are defined as the street lengths and do not include curbs associated with medians.
[3] Assessments conducted between July 2017 and July 2019 are assumed to be representative of trash levels in FY 18-19 and were therefore used to calculate the jurisdictional-wide reductions reported in this section.
[4] Each assessment site is roughly 1,000 feet in length.
[5] Based on analyses conducted as part of the BASMAA *Tracking California's Trash* project (BASMAA 2017) funded by the State Water Resources Control Board, the optimal number of assessment events to detect an improvement from baseline trash levels at a site is between 4 and 6 per site.

C.10.b.iv ► Trash Reduction – Source Controls

Provide a description of each jurisdictional-wide trash source control action implemented to-date. For each control action, identify the trash reduction evaluation method(s) used to demonstrate on-going reductions, summarize the results of the evaluation(s), and estimate the associated reduction of trash within your jurisdictional area. Note: There is a maximum of 10% total credit for source controls.

Source Control Action	Summary Description & Dominant Trash Sources and Types Targeted	Evaluation/Enforcement Method(s)	Summary of Evaluation/Enforcement Results To-date	% Reduction
Single Use Bag Ordinance	On March 11, 2013, the San Carlos City Council adopted Ordinance 1455 which adopts the San Mateo County ordinance 4.114 that prohibits the use of single use bags and encourages the use of reusable bags. The ordinance went into effect July 1, 2013. Ordinance is located at the following web link under Title 8, Chapter 8.28 – http://www.codepublishing.com/CA/ sancarlos/	On behalf of all SMCWPPP Permittees, the County of San Mateo (County) conducted assessments evaluating the effectiveness of the single use plastic bag ban in municipalities within the County. Assessments conducted by the County included audits of businesses and surveys of customer bag usage at many businesses in San Mateo County. Additionally, the number of complaints by customers was also tracked by the County. The results of assessments conducted by these cities are assumed to be representative of all SMCWPPP Permittees, given the consistency between the scope, implementation, and enforcement of the ordinances among the municipalities. The City developed its % trash reduced estimate using the following assumptions: 1) Single use plastic bags comprise 8% of the trash discharged from stormwater conveyances, based on the Regional Trash Generation Study conducted by BASMAA; 2) 95% of single use plastic bags distributed in the City/County are affected by the implementation of	Results of assessments conducted by the County of San Mateo on behalf of all municipalities in San Mateo County indicate that the City's ordinance is effective in reducing the number of single use plastic bags in stormwater discharges. This preliminary conclusion is based on the very small number of complaints received from customers about businesses in San Mateo County that are continuing to use single use plastic bags after ordinances were adopted. Assuming single use bags are 8% of the trash observed in stormwater discharges, the City concludes that there has been a 7% (i.e. 8% x 86% effectiveness in reducing bags) reduction in trash in stormwater discharges as a result of the City's ordinances.	7%

C.10.b.iv ► Trash Reduction – Source Controls

Provide a description of each jurisdictional-wide trash source control action implemented to-date. For each control action, identify the trash reduction evaluation method(s) used to demonstrate on-going reductions, summarize the results of the evaluation(s), and estimate the associated reduction of trash within your jurisdictional area. Note: There is a maximum of 10% total credit for source controls.

		the ordinance, based on the County of San Mateo's Environmental Impact Report; and 3) of the bags affected by the ordinances, there are now 90% less bags being distributed, based on customer complaints received by the County's Department of Environmental Health Services. This is conservative estimate given that in FY 14-15 Environmental Services only received complaints about 4, of the over 1900 businesses in the County that are affected by the single-use plastic bag ordinances.		

Expanded Polystyrene Food Service Ware Ordinance	On March 12, 2012 the San Carlos City Council adopted Ordinance 1442 which adopts the San Mateo County model ordinance that bans Polystyrene Foodware by food vendors. The ordinance went into effect July 1, 2012. Food vendors have been notified in writing and were provided information on alternative products. Ordinance is located at the following web link under Title 8, Chapter 8.27 – http://www.codepublishing.com/CA/sancarlos/	Although the City has adopted and implemented an ordinance prohibiting the distribution of EPS food ware by food vendors, evaluations of the effectiveness of the ordinance have not yet been conducted. For the purpose of estimating reductions in stormwater discharges associated with the ordinance, the results of assessments conducted by the Cities of Los Altos and Palo Alto were used to represent the reduction of trash associated with the City's ordinance. Assessments conducted by these cities were conducted prior to and allowing the effective date of their ordinances, and include audits of businesses and/or assessments of EPS foodware observed on streets, storm drains and local creeks. The results of assessments conducted by these cities are assumed to be representative of the effectiveness of the City's ordinance because the implementation (including enforcement) of the City's ordinance is similar to the City of Los Altos' and Palo Alto's. The City developed its % trash reduced estimate using the following assumption: 1) EPS food ware comprises 6% of the trash discharged from stormwater conveyances, based on the Regional Trash Generation Study conducted by BASMAA; 2) 80% of EPS food ware distributed by food	Results of assessments that are representative of the City but were conducted by the cities of Los Altos and Palo Alto, indicate that City's ordinance is effective in reducing EPS food ware in stormwater discharges. This conclusion is based on the following assessment result – an average of 95% of businesses affected by the ordinance are no longer distributing EPS food ware post-ordinance. Based on these results, the estimated average reduction of EPS food ware in stormwater discharges is 90%. Assuming EPS food ware is 6% of the trash observed in stormwater discharges, the City concludes that there has been a 5% (i.e. 6%x90%) reduction in trash in stormwater discharges as a result of the ordinance.	5%

C.10.b.iv ► Trash Reduction – Source Controls

Provide a description of each jurisdictional-wide trash source control action implemented to-date. For each control action, identify the trash reduction evaluation method(s) used to demonstrate on-going reductions, summarize the results of the evaluation(s), and estimate the associated reduction of trash within your jurisdictional area. Note: There is a maximum of 10% total credit for source controls.

		vendors or sold via stores in the City is affected by the implementation of the ordinances; and 3) There is now 95% less EPS food ware being distributed, sold and/or observed in the environment, based on assessments conducted by the City of Palo Alto and City of Los Altos.		

C.10.b.v ► Trash Reduction – Receiving Water Monitoring

Report on the progress of developing and testing your agency's trash receiving water monitoring program.

In FY 18-19, the City continued implementing the BASMAA Regional Receiving Water Trash Monitoring Program Plan that was approved by the Water Board's Executive Officer. Implementation included preparing for and conducting qualitative assessments and quantitative monitoring in receiving water locations within the City of San Carlos. Implementation occurred through both the City's own efforts and participation in the San Mateo County Water Pollution Prevention Program (SMCWPPP). Consistent with MRP requirements, a preliminary report describing data results and findings to-date was submitted to the Water Board via BASMAA on July 1, 2019 on behalf of all Permittees. The final report for the development and testing of the Bay Area trash receiving water monitoring program will be submitted by BASMAA by July 1, 2020, consistent with the MRP requirements, following peer review.

In addition to implementing the BASMAA Monitoring Plan, the City coordinated (via SMCWPPP) on the Statewide Trash Monitoring Methods Project, which is funded by the California Ocean Protection Council and State Water Board and administered via the Southern California Coastal Water Research Project (SCCWRP) and San Francisco Bay Estuary Institute (SFEI).

Additional information on accomplishments in FY 18-19 can be found in the Receiving Water Trash Monitoring Program Progress Report included in the SMCWPPP FY 18-19 Annual Report.

C.10.c ► Trash Hot Spot Cleanups

Provide the FY 18-19 cleanup date and volume of trash removed during each MRP-required Trash Hot Spot cleanup during each fiscal year listed. Indicate whether the site was a new site in FY 18-19.

Trash Hot Spot	New Site in FY 18-19 (Y/N)	FY 18-19 Cleanup Date(s)	Volume of Trash Removed (cubic yards)				
			FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
SCS01	N	6/20/2019	0.08	0.08	0.12	0.09	0.2

C.10.d ►Long-Term Trash Load Reduction Plan

Provide descriptions of significant revisions made to your Long-term Trash Load Reduction Plan submitted to the Water Board in February 2014. Describe significant changes made to primary or secondary trash management areas (TMA), baseline trash generation maps, control measures, or time schedules identified in your plan. Indicate whether your baseline trash generation map was revised and if so what information was collected to support the revision. If your baseline trash generation map was revised, attach it to your Annual Report.

Description of Significant Revision	Associated TMA
In FY 15-16, consistent with all MPR Permittees, all public K-12 schools, colleges and university parcels were made non-jurisdictional on the City's baseline trash generation maps. Under California Government Code Sections 4450 through 4461, the construction, modification or alternation of facilities and/or structures on these parcels are under the jurisdiction of the California Division of State Architect and not the City. The public right-of-way (e.g., streets and sidewalks) surrounding these parcels remain as jurisdictional on the City's baseline trash generation maps. Revised maps that incorporate these revisions were included as Attachment 10-2 in the FY 15/16 Annual Report.	All Applicable
147 Connector Pipe Screens and 27 Inlet Filter Baskets were installed in June 2017 as part of the City's 2017 Trash Capture Project.	Primarily 1 & 3, Some in 4

C.10.e. ► Trash Reduction Offsets (Optional)

Provide a summary description of each offset program implemented, the volume of trash removed, and the offset claimed in FY 18-19. Also, for additional creek and shoreline cleanups, describe the number and frequency of cleanups conducted, and the locations and cleanup dates. For direct discharge control programs approved by the Water Board Executive Officer, also describe the results of the assessments conducted in receiving waters to demonstrate the effectiveness of the control program. Include an Appendix that provides the calculations and data used to determine the trash reduction offset.

Offset Program	Summary Description of Actions and Assessment Results	Volume of Trash (CY) Removed/Controlled in FY 18-19	Offset (% Jurisdiction-wide Reduction)
Additional Creek and Shoreline Cleanups (Max 10% Offset)	Coinciding with Californian Coastal Cleanup Day every September, the City sends out annual notices to property owners which front privately owned creeks (Brittan, Pulgas and Cordilleras Creeks) to patriciate by cleaning up their segment of creek. The City asked residents to bag all debris and trash removed from the creek and place curbside by Monday morning following the Saturday cleanup event. The City then collects, measures, and properly disposes all items.	6	0%
Direct Trash Discharge Controls (Max 15% Offset)	NA	NA	NA

Appendix 10-1. Baseline trash generation and areas addressed by full capture systems and other control measures in Fiscal Year 18-19.[6]

TMA	2009 Baseline Trash Generation (Acres)					Trash Generation (Acres) in FY 18-19 After Accounting for Full Capture Systems					Jurisdiction-wide Reduction via Full Capture Systems (%)	Trash Generation (Acres) in FY 18-19 After Accounting for Full Capture Systems and Other Control Measures					Jurisdiction-wide Reduction via Other Control Measures (%)	Jurisdiction-wide Reduction via Full Capture AND Other Control Measures (%)
	L	M	H	VH	Total	L	M	H	VH	Total		L	M	H	VH	Total		
1	51	51	70	0	173	164	3	6	0	173	38.5%	164	3	6	0	173	0.0%	38.5%
2	0	0	7	0	7	3	0	4	0	7	1.7%	3	0	4	0	7	0.0%	1.7%
3	100	351	0	0	451	295	156	0	0	451	24.5%	295	156	0	0	451	0.0%	24.5%
4	21	35	0	0	56	25	32	0	0	56	0.4%	25	32	0	0	56	0.0%	0.4%
5	0	42	0	0	43	26	16	0	0	43	3.3%	43	0	0	0	43	2.0%	5.3%
6	0	5	0	0	5	0	5	0	0	5	0.0%	4	1	0	0	5	0.4%	0.4%
7	2,465	1	0	0	2,466	2,465	1	0	0	2,466	0.0%	2,465	1	0	0	2,466	0.0%	0.0%
Totals	2,638	485	77	0	3,201	2,979	212	10	0	3,201	68.5%	2,999	193	9	0	3,201	2.5%	71.0%

[6] Due to rounding, total acres and percentages presented in this table may be slightly different than the sum of the acres/percentages in the corresponding rows/columns (e.g., differ by 1 acre or 0.1%).

Section 11 - Provision C.11 Mercury Controls

C.11.a ► Implement Control Measures to Achieve Mercury Load Reductions
C.11.b ► Assess Mercury Load Reductions from Stormwater

See the Countywide Program's FY 2018/19 Annual Report for updated information on:

- **Documentation of mercury control measures implemented in our agency's jurisdictional area for which load reductions will be reported and the associated management areas;**
- **A description of how the BASMAA Interim Accounting Methodology[1] was used to calculate the mercury load reduced by each control measure implemented in our agency's jurisdictional area and the calculation results (i.e., the estimated mercury load reduced by each control measure);**
- **Supporting data and information necessary to substantiate the load reduction estimates; and**
- **For Executive Officer approval, any refinements, if necessary, to the measurement and estimation methodologies to assess mercury load reductions in the subsequent permit.**

C.11.c ► Plan and Implement Green Infrastructure to Reduce Mercury Loads

See the Countywide Program's FY 2018/19 Annual Report for information on the quantitative relationship between green infrastructure implementation and mercury load reductions, including all data used and a full description of models and model inputs relied on to establish this relationship.

C.11.e ► Implement a Risk Reduction Program

A summary of Countywide Program and regional accomplishments for this sub-provision are included in the Countywide Program's FY 2018/19 Annual Report.

[1]BASMAA 2017. Interim Accounting Methodology for TMDL Loads Reduced, Version 1.0. Prepared for BASMAA by Geosyntec Consultants and EOA, Inc., September 19, 2016.

Section 12 - Provision C.12 PCBs Controls

C.12.a ► Implement Control Measures to Achieve PCBs Load Reductions
C.12.b ► Assess PCBs Load Reductions from Stormwater

See the Countywide Program's FY 2018/19 Annual Report for:

- **Documentation of PCBs control measures implemented in San Mateo County municipal jurisdictional areas for which load reductions will be reported and the associated management areas;**
- **A description of how the BASMAA Interim Accounting Methodology[1] was used to calculate the PCBs load reduced by each control measure implemented in San Mateo County municipal jurisdictional areas and the calculation results (i.e., the estimated PCBs load reduced by each control measure);**
- **Supporting data and information necessary to substantiate the load reduction estimates; and**
- **For Executive Officer approval, any refinements, if necessary, to the measurement and estimation methodologies to assess PCBs load reductions in the subsequent permit.**

C.12.c ► Plan and Implement Green Infrastructure to Reduce PCBs Loads

See the Countywide Program's FY 2018/19 Annual Report for, as part of reporting for C.12.b.iii(2), an estimate of the amount of PCBs load reductions resulting from green infrastructure implementation during the term of the Permit, including all data used and a full description of models and model inputs relied on to generate the estimate.

[1]BASMAA 2017. Interim Accounting Methodology for TMDL Loads Reduced, Version 1.1. Prepared for BASMAA by Geosyntec Consultants and EOA, Inc., September 19, 2017.

C.12.f. ► Manage PCB-Containing Materials During Building Demolition

On July 1, 2019, was your agency ready to implement a method for identifying applicable structures (buildings built or remodeled between 1950 and 1980, except that single family residential and wood-framed buildings are exempt) that apply for a demolition permit?	**X**	**Yes**		**No**
On July 1, 2019, was your agency ready to implement a method to manage PCBs during demolition of applicable structures?[2]	**X**	**Yes**		**No**
Does your agency have a data-gathering method in place to inform reporting on the effectiveness of your agency's program to manage PCBs during demolition of applicable structures (e.g., the number of applicable structures, and the amount and concentration of PCBs in priority building materials in applicable structures)?	**X**	**Yes**		**No**

C.12.h ►Implement a Risk Reduction Program

A summary of Countywide Program and regional accomplishments for this sub-provision are included in the Countywide Program's FY 2018/19 Annual Report.

[2] The new PCBs screening/sampling program itself is considered a stormwater control method for PCBs during demolition of applicable structures, consistent with the requirements of MRP C.12.f. The overall program will lead to management of priority PCBs-containing materials during demolition. For example, the project applicant is required to characterize PCBs concentrations in priority building materials and then must certify that "…I understand my responsibility for knowing and complying with all relevant laws and regulations related to reporting, abating, and handing and disposing of PCBs materials and wastes", which should result in removal and proper disposal of PCBs-containing materials during demolition of an applicable structure (especially when PCBs concentrations are ≥ 50 ppm).

Section 13 - Provision C.13 Copper Controls

C.13.a.iii.(3) ►Manage Waste Generated from Cleaning and Treating of Copper Architectural Features

Provide summaries of permitting and enforcement activities to manage waste generated from cleaning and treating of copper architectural features, including copper roofs, during construction and post-construction.

Summary:

During construction, municipal construction stormwater inspectors are responsible for identifying copper architectural features and if appropriate BMPs are implemented. Any issues noted are documented and enforcement actions recorded in the Provision C.6 inspection records. Post construction municipal illicit discharge inspectors are responsible for responding to, investigating and identifying illegal discharge of wash water from washing copper architectural features. Any enforcement actions or reported discharges are recorded in the Provision C.5 inspection records. Inspectors trained to be aware of the concerns with copper architectural features at SMCWPPP Training Workshops and at internal municipal trainings.

C.13.b.iii.(3) ►Manage Discharges from Pools, Spas, and Fountains that Contain Copper-Based Chemicals

Provide summaries of any enforcement activities related to copper-containing discharges from pools, spas, and fountains.

Summary:

No illicit discharges related to copper-containing pools, spas, and fountains were reported during FY18-19, as such, no enforcement actions were required.

C.13.c.iii ►Industrial Sources Copper Reduction Results

Based upon inspection activities conducted under Provision C.4, highlight copper reduction results achieved among the facilities identified as potential users or sources of copper, facilities inspected, and BMPs addressed.

Summary:

During routine inspections, the City did not find any violations at industrial facilities.

Section 15 -Provision C.15 Exempted and Conditionally Exempted Discharges

C.15.b.vi.(2) ► Irrigation Water, Landscape Irrigation, and Lawn or Garden Watering

Provide implementation summaries of the required BMPs to promote measures that minimize runoff and pollutant loading from excess irrigation. Generally the categories are:

- Promote conservation programs
- Promote outreach for less toxic pest control and landscape management
- Promote use of drought tolerant and native vegetation
- Promote outreach messages to encourage appropriate watering/irrigation practices
- Implement Illicit Discharge Enforcement Response Plan for ongoing, large volume landscape irrigation runoff.

Summary:

The City of San Carlos Municipal Code section 18.18.080 outlines design guidelines and requirements for water efficient landscaping and irrigation. All residents and developers are held to these standard for new and redevelopment.

The City's main accomplishments in water conservation in FY 18/19 were as follows:

- **In the spring and summer of 2019, Public Works is working to replace passive grass with mulch on San Carlos Museum front landscaping. Spray heads were replaced with drip line irrigation to increase water retention, prevent water runoff and minimize water evaporation.**
- **The Public Works Department has an ongoing protocol to replace shrubs, plants and trees with stamped concrete or cobblestones on medians that are less than five feet in width. Replacing this landscaping not only saves water, but also ensures the safety of staff and contractors who are responsible for maintenance. To date, replacement projects have been completed on medians at El Camino Real at Hull Drive and Industrial Road at Bransten Road.**
- **In July 2017, the State Water Resources Control Board Division of Drinking Water approved a pilot program for the residential recycled water fill station. The program will provide recycled water to residential customers via a fill station located at the Corp Yard. Residents will be able to use the recycled water for home irrigation of trees, landscaping or garden. As of the end of June 2019 the program was in full operation. Residents can schedule through the City website, training classes on the use, handling, and transport of recycled water.**

Related countywide efforts may be described in the following sections of the SMCWPPP FY 2018/19 Annual Report: C.3 New Development and Redevelopment, C.7. Public Information and Outreach, C.9. Pesticide Toxicity Control, and C.15 Exempted and Conditionally Exempted Discharges.

APPENDIX A

CITY OF SAN CARLOS GREEN INFRSTRUCTURE PLAN

GREEN INFRASTRUCTURE PLAN

CITY OF SAN CARLOS 600 Elm Street, San Carlos, CA 94070 • 650.802.4100

JUNE 2019

ACKNOWLEDGEMENTS

The City of San Carlos gratefully acknowledges those who contributed to the preparation of this document, which was developed to comply with the requirements in Provision C.3.j.i of the Municipal Regional Stormwater NPDES Permit (MRP), Order R2-2015-0049, in collaboration with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) and with use, in part, of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) Green Infrastructure Plan template. The comments, guidance, suggestions, and content provided by those referenced below were instrumental to the development of the Green Infrastructure Plan.

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PREFACE

Green Infrastructure (GI) is a cost-effective, resilient approach to managing water quality. It uses plants, soils, and other elements to mimic the natural water cycle and capture rainwater. Examples of GI include a variety of stormwater measures, such as stormwater planters or bioretention areas, infiltration systems, permeable pavement, green roofs, green walls, green gutters, and stormwater trees which mimic natural hydrologic processes such as filtration, infiltration, detention, and evapotranspiration.

GI provides multiple community benefits such as improving water quality before discharging it to the bay or ocean by removing pollutants like sediment and trash from stormwater, reducing the effect of urbanization on local creeks and waterways, mitigating the heat island effect, providing climate change resilience, reducing localized flooding, promoting natural ground infiltration and groundwater recharge, increasing biodiversity and habitat for native plants and animals, and enhancing property and neighborhood economic vitality and aesthetics.

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB)'s Municipal Regional Stormwater NPDES Permit (MRP), Order No. R2-2015-0049, regulates pollutants in stormwater runoff from municipal storm drain systems throughout San Mateo, Santa Clara, Alameda, and Contra Costa Counties, as well as the Cities of Fairfield, Suisun, and Vallejo, and the Vallejo Sanitation and Flood Control District. The City of San Carlos is obligated to follow the mandates of the MRP to control stormwater discharge within City limits. The City of San Carlos, as one of the 76 municipalities that are Permittees of the MRP, has developed this document, the Green Infrastructure Plan, in order to comply with the MRP's Green Infrastructure Planning and Implementation requirements.

This Green Infrastructure Plan describes how the City will, over time, transition its existing "gray" (i.e., traditional) infrastructure to "green" infrastructure. This local planning document determines, defines, and supports local GI goals and policies. This document also provides guidance to meet stormwater pollutant load reduction goals and creates a process for prioritizing the integration of GI into CIP projects. This plan is intended to be a "living document" and may change and adjust over time as regulatory requirements change, new information is gathered and analyzed, and GI technologies advance.

CEQA EXEMPTION

Development and approval of the Green Infrastructure (GI) Plan will likely result in the construction or installation of GI improvements such as landscaping, irrigation, bioswales, stormwater capture devices, pervious paving and rain gardens that will improve the water quality of stormwater within existing City right-of-way or other existing facilities, or within new construction, replacement or conversion of small structures.

This action qualifies for the Class 1 categorical exemption (CEQA Guidelines Section 15301) for the minor alteration of existing public or private structures such as highways, streets, sidewalks, gutters, bicycle and pedestrian trails by adding green infrastructure improvements that would involve no or negligible expansion of existing use. The GI policies also qualify for the Class 2 exemption (CEQA Guidelines Section 15302) because they would involve replacing existing storm drainage or pervious surfaces with green infrastructure improvements and would have substantially the same purpose and capacity as the structures replaced. Further, the addition of the GI policies qualifies for the Class 3 exemption (CEQA Guidelines Section 15303) to the extent new GI will be incorporated into new construction. Lastly, the GI Plan qualifies for the Class 8 exemption (CEQA Guidelines Section 15303) since the plan promotes the construction or installation of GI which enhances water quality, improves of streetscape aesthetic and provides flood protection. The City Council will provide final approval of the project, and a Notice of Exemption will be filed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GREEN INFRASTRUCTURE PLAN APPENDICES

ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agencies Association
C/CAG	City/County Association of Governments
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
City	City of San Carlos
CWA	Clean Water Act
FY	Fiscal Year
GI	Green Infrastructure
GI Plan	Green Infrastructure Plan
GI TAC	Green Infrastructure Technical Advisory Committee
GIS	Geographic Information System
LID	Low Impact Development
MRP	Municipal Regional Stormwater NPDES Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PCBs	Polychlorinated Biphenyls
RAA	Reasonable Assurance Analysis
SFRWQCB	San Francisco Bay Regional Water Quality Control Board
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SMCWPPP	San Mateo County Water Pollution Prevention Program
SRP	San Mateo County Stormwater Resource Plan
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
WDR	Waste Discharge Requirements
WLA	Waste Load Allocation

1.0 INTRODUCTION

1.1 What is Green Infrastructure?

1.1.1 Basics of Green Infrastructure

A traditional stormwater management approach collects excess rainwater (called "runoff") through a series of "gray" infrastructure (curbs, gutters, storm drain structures, and piping) and directs it to the receiving waters quickly and without treatment. As land becomes more developed over time, natural landscapes are converted to impervious areas and soils are compacted, reducing the amount of water which infiltrates into the ground and increasing both the amount of runoff and the speed with which it reaches local creeks and other waterbodies. As the runoff travels over impervious surfaces, it collects pollutants along the way such as heavy metals, oils, grease, trash, sediment, bacteria, nutrients, pesticides, and toxic chemicals from vehicles, construction sites, animals, landscaping activities, and industrial or commercial businesses. Over time, this has led to the pollution of local waterbodies. In the case of the San Francisco Bay, the water quality has degraded to the point of being "impaired", meaning that it cannot meet at least one of its beneficial uses due to insufficient water quality.[1]

In contrast to traditional "gray" infrastructure, Green Infrastructure (GI) is a means of restoring water quality through implementing a range of natural and built approaches to stormwater management that mimic natural systems. GI can reduce the amount of runoff that enters the traditional piped stormwater system below ground, prevent overflows that pollute nearby water bodies, clean stormwater, and allow water to reabsorb back into the ground. GI uses vegetation, soils, filter media, and/or natural processes to create healthier urban environments. At the scale of a city or town, GI refers to the patchwork of natural areas that provide habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or project site, GI refers to stormwater management systems and features that mimic nature by absorbing and storing stormwater as well as reducing pollutants through filtration, infiltration, detention, and evapotranspiration.

Figures 1 and 2 represent the stark difference between the hydrologic cycle before and after development, while Figure 3 represents a balanced approach to stormwater management using GI.

[1] The SWRCB has defined the beneficial uses of the San Francisco Bay to be as follows: industrial service supply, industrial process supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact recreation, noncontact water recreation, and navigation.

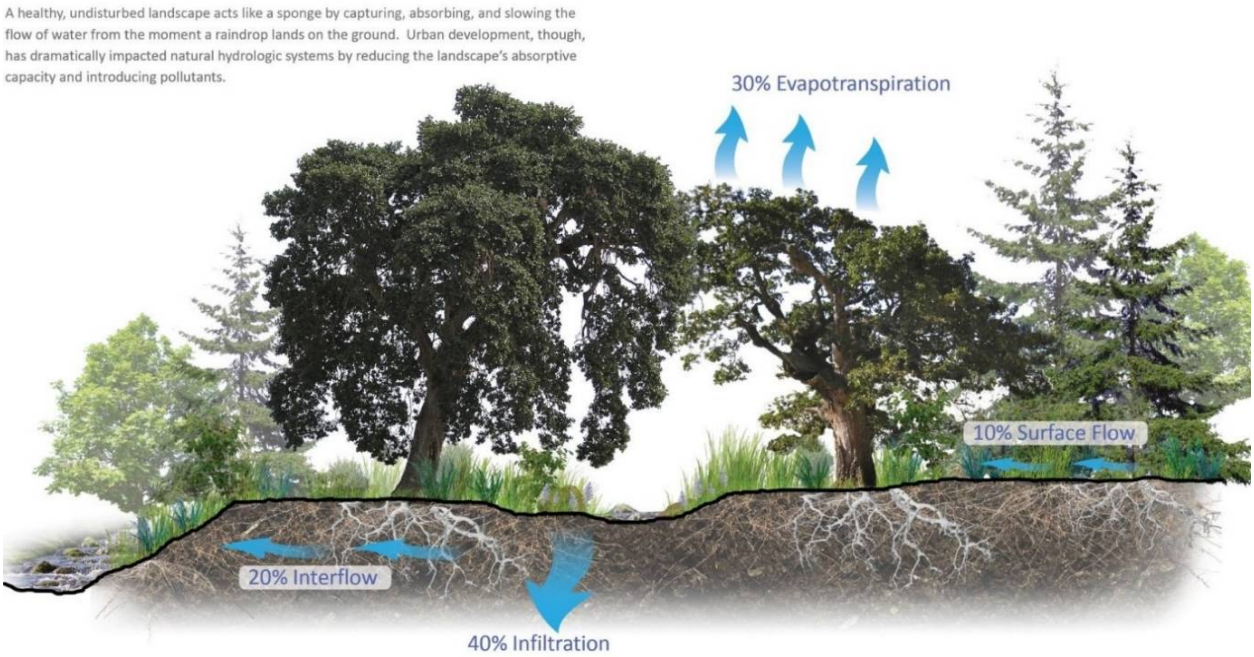


Figure 1. *Pre-Urban Development Water Cycle.*[2]

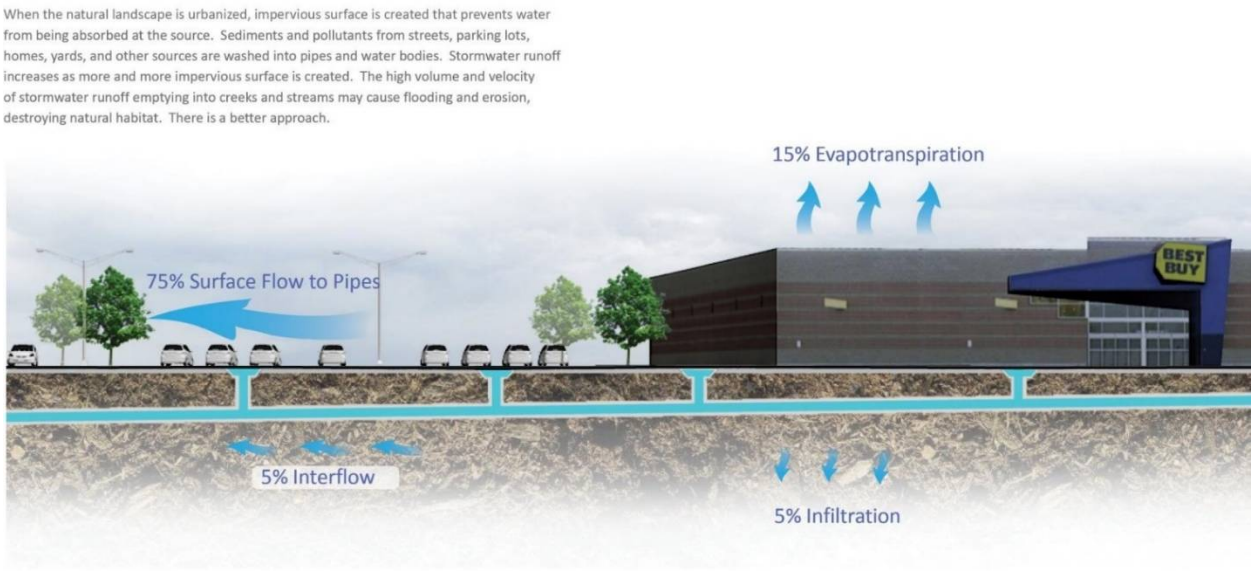


Figure 2*. Post-Urban Development Water Cycle.*[2]

GI measures are used on both public and private lands, such as roads and parking lots, and act as resilient, sustainable systems that retain, detain, filter, harvest, infiltrate, and/or evapotranspire runoff. This limits the discharge of pollutants to the storm drain system and promotes the infiltration of stormwater into the groundwater basin. GI also includes best management practices, like discharging impervious areas to

[2] *San Mateo County Sustainable Green Streets and Parking Lots Guidebook.* SMCWPPP 2009.

landscape and minimizing of impervious surfaces on new developments, which act to remove pollutants and protect natural systems.

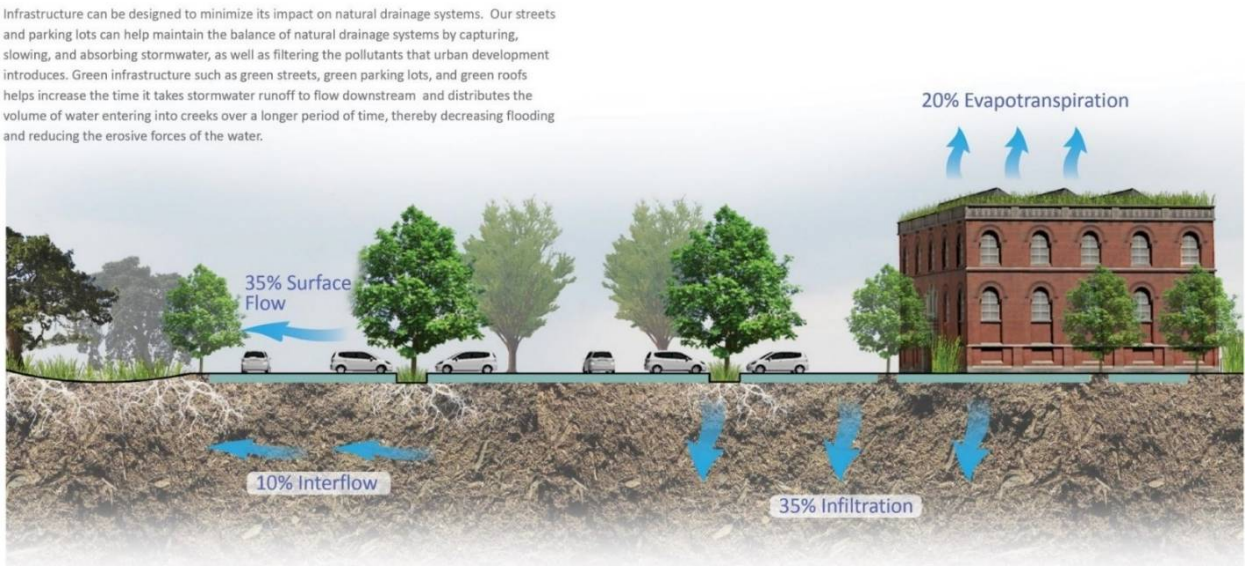


Figure 3. *Balanced Development Water Cycle.*[3]

GI also provides amenities with many benefits beyond water quality improvement and groundwater replenishment, including the reduction of flooding, creation of attractive streetscapes and habitats, and reduction of the heat island effect.

Examples of GI include landscape-based stormwater "biotreatment" using soil and plants ranging from grasses to trees, pervious paving systems (e.g., interlocking concrete pavers, porous asphalt, and pervious concrete), rainwater harvesting systems (e.g., cisterns and rain barrels), and other methods to capture and treat stormwater. These practices are also known as Low Impact Development (LID) site design and treatment measures.

In addition to LID measures, non-LID measures such as green walls and mechanical treatment measures (e.g., media filters or high flow-rate tree well filters) can be used in areas where landscape-based measures are not feasible. Some mechanical devices, such as hydrodynamic separators, offer pollutant removal capability and may offer partial treatment of the stormwater system. These can be used in isolation or can provide additional pollutant removal capability when installed in a "treatment train" with landscape-based systems.

Table 1 features the various terminology used to describe water quality improvement measures, ranging from engineered GI measures, such as bioretention areas, to watershed-based practices which reduce pollutants to receiving waters, such as preservation of open space areas.

[3] *San Mateo County Sustainable Green Streets and Parking Lots Guidebook.* SMCWPPP 2009.

Table 1. *Water Quality Improvement Measures.*

Green Infrastructure Measures *These measures provide treatment of stormwater or intercept stormwater before it can collect pollutants.*		**Mechanical Treatment Measures** *These measures can improve water quality through the mechanical removal of pollutants.*
GI Planters Stormwater Planter (also known as a Bioretention or Biofiltration Area) Rain Garden Stormwater Curb Extension **GI Trees** Tree Well Stormwater Tree Interceptor Tree **GI Pavements** Pervious Pavement Pervious Pavers Porous Asphalt Porous Concrete	**Underground GI Systems** Infiltration System **GI for Buildings** Rainwater Harvesting Green Roof Green Wall **Other GI Vegetative Systems** Green Gutter Vegetated Swale (also known as a Bioswale) Self-Treating Areas Self-Retaining Areas	Media Filter *(Non-LID)* High-Flow Rate Tree Well Filter *(Non-LID)* Hydrodynamic Separator (Partial Treatment Credit) **Natural Systems** *Preservation of natural systems can help to support anti-degradation policies on a watershed-based scale.* Open Space Areas Landscaping **Other Best Management Practices** *These practices do not provide stormwater treatment, but they can help to improve water quality.* Street sweeping Water conservation Draining impervious surfaces to landscaping Detention systems

Information about various types of GI measures is provided in the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) *Green Infrastructure Design Guide*[4] and *C.3 Regulated Projects Guide.*[5] The *Green Infrastructure Design Guide* provides photos and renderings of example GI projects as well as detailed descriptions of various types of stormwater treatment measures. Figure 4 shows the key stormwater treatment measures featured in the *Green Infrastructure Design Guide.*

[4] The *Design Guide* can be found at SMCWPPP's website at https://www.flowstobay.org/gidesignguide.

[5] *C.3 Regulated Projects Guide* (formerly known as the *C.3 Technical Guidance)* can be found on the SMCWPPP "Flows to Bay" website at https://www.flowstobay.org/newdevelopment.

CHAPTER 2

2.0 Green Infrastructure Measures and Opportunities
Introduction

A Visual Guide of Green Infrastructure Measures

Stormwater Planters

Stormwater Curb Extensions

Rain Gardens

Tree Wells

Infiltration Systems

Pervious Pavement

Green Roofs

Rainwater Harvesting

Vegetated Swales

Green Gutters

Stormwater Trees

Interceptor Trees

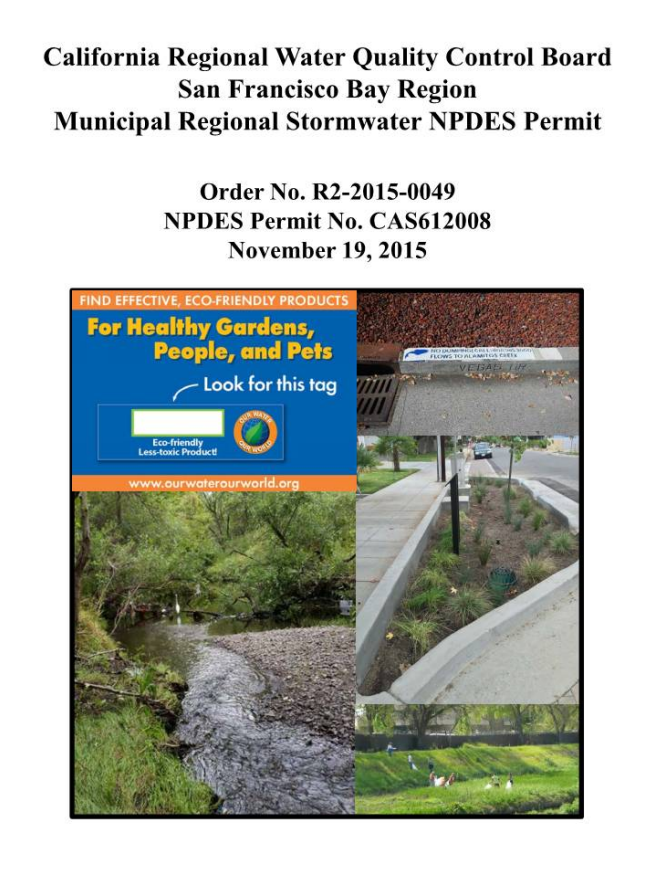
Green Walls

Figure 4. *Visual Guide of Green Infrastructure Measure (SMCWPPP 2019b).*

"Green Streets" are roadway projects which incorporate GI strategies to manage runoff. "Complete Streets" are streets designed with equal consideration of all modes of travel to increase safety and access for cyclists and pedestrians. The integration of the goals of both Complete Streets and Green Streets has coined several new terms such as "Living Streets," "Better Streets," and "Sustainable Streets." This movement recognizes that environmentally- and holistically-designed streets achieve many benefits: increased multi-modal travel and safety, clean water and air, flood and climate change resilience and mitigation, placemaking and community cohesion, habitat and energy savings, and higher property values.

1.1.2 Regulatory Water Quality Requirements

Section 402(p) of the federal Clean Water Act (CWA) requires NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s), which are considered a significant contributor of pollutants to waters of the United States. The US Environmental Protection Agency (USEPA) delegates its authority to regulate MS4s to the State Water Quality Control Board. In accordance with CWA Section 303(d), the SFRWQCB is required to establish Total Maximum Daily Loads (TMDLs) for certain pollutants that may be causing—or threatening to cause or contribute to—water quality impairment in the waters of the region. These pollutants include mercury, polychlorinated biphenyls (PCBs), pesticides, and sediment. There is not yet a TMDL for trash; however, trash is still considered a pollutant.



California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP).

Permittees are subject to the requirements of the recently reissued Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit for Phase I municipalities and agencies in the San Francisco Bay Area (Order R2-2015-0049), also known as the Municipal Regional Permit (MRP), which became effective on January 1, 2016. The MRP applies to 76 large, medium, and small municipalities (cities, towns, and counties) and flood control agencies (collectively referred to as Permittees) that discharge stormwater to the San Francisco Bay.

Over the last 13 years, under the NPDES stormwater permits, new development and redevelopment projects on private and public property that exceed certain size thresholds ("Regulated Projects") have

been required to mitigate impacts on water quality by incorporating site design, pollutant source control, stormwater treatment, and flow control measures as appropriate. LID treatment measures, such as rainwater harvesting and use, infiltration, and biotreatment, have been required on most Regulated Projects since December 2011. Construction of new roads is covered by these requirements, but projects related to existing roads and adjoining sidewalks and bike lanes are not Regulated unless they include creation of an additional travel lane.

As of 2015, a new section of the MRP requires Permittees to develop and implement long-term GI Plans to address pollutants in stormwater discharges, including polychlorinated biphenyls (PCBs), mercury, trash, and pesticides, to meet Waste Load Allocation (WLA) and TMDL requirements. LID measures incorporated into GI design and retrofit projects can help remove these pollutants from stormwater runoff. For this reason, the MRP establishes a new linkage between public infrastructure retrofits and required reductions in discharges of certain pollutants, specifically PCBs and mercury. The GI Plan is intended to serve as an implementation guide and reporting tool to provide reasonable assurance that urban runoff Total Maximum Daily Load (TMDL) wasteload allocations are met, and set goals for reducing, over the long term, the adverse water quality impacts of urbanization and urban runoff on receiving waters. Over the next few decades, Permittees must reduce the loads of PCBs and mercury in stormwater discharges through various means, with a portion of these load reductions achieved through the installation of GI systems.

Other pollutants, including trash and pesticides, should also be coordinated with the GI program since, when properly designed, constructed and maintained, biotreatment systems may also be credited toward trash and pesticide reduction goals.

1.1.3 Contributors to Pollution

There are numerous activities which generate or otherwise contribute to pollution in stormwater and can cause impairments to the beneficial uses of receiving waterbodies. The following are pollutants of concern that have resulted in impairments of waters from San Mateo County watersheds[6]:

- **PCBs.** Sources of PCBs are transformers or capacitors with leaking hydraulic fluids, lubricants, plasticizers, building materials, and pesticide extenders. PCBs are released to the environment through spills, leaks, and improper disposal and storage. They have not been produced since 1977, but they can be transported long distances and bind strongly to sediment and are therefore persistent once in the environment. In addition to treatment by GI, PCBs are managed through the City's PCB Demolition Program to control PCB-laden wastes during building demolition, and

[6] *Stormwater Resource Plan for San Mateo County.* (2017, February). San Mateo Countywide Water Pollution Prevention Program. City/County Association of Governments of San Mateo County. Prepared by Paradigm Environmental and Larry Walker Associates, Inc.

through referrals of source properties to the SFRWQCB. After referral, the property owner is required to address the pollution.

- **Diazinon and Other Pesticides.** Pesticides were used throughout the San Francisco Bay Area to manage pests, and are released into the environment during manufacture, formulation, distribution and retail, landscape maintenance, and through agricultural usage (SFRWQCB 2016). Urban runoff transports these pesticides to local water bodies. In addition to treatment by GI, pesticides are reduced through implementation of a Pesticides Toxicity Control Program, which includes an Integrated Pest Management program aimed at reducing the use of pesticides.
- **Mercury.** Mercury sources include historic mines, urban runoff, wastewater discharges, resuspension of mercury-laden sediment in the Bay, and atmospheric deposition (SFRWQCB 2016). In addition to treatment by GI, mercury is reduced through implementation of a Mercury Control Program, which includes source control efforts at local mines.
- **Trash.** Trash accumulates in waterbodies due to littering on the street, direct dumping, wind, and through urban runoff. Plastic represented 60% of the trash accumulated from a 2007 study of six watersheds in the County (SMCWPPP 2007). In addition to treatment by GI, trash is reduced by various trash prevention and control actions, such as full trash capture devices, street sweeping, storm drain inlet cleaning, and hot spot cleanups.
- **Sediment.** Sources of sediment include erosion of creek banks and incision of creek streambeds (often caused by increase stormwater flows from development) and excavation and deposition of sediment (such as through construction activities, historic logging, and agriculture). Sediment is controlled via GI and mechanical treatment devices, such as hydrodynamic separators.
- **Indicator Bacteria.** Sources of indicator bacteria along San Francisco Bay beaches, Pacific Ocean beaches, Marina Lagoon, and other waterbodies in San Mateo County stem from urbanization as well as from natural background sources. Urban stormwater runoff carries pet waste and litter which contributes to coliform bacteria. Other sources include sanitary sewer leaks and overflows, boat waste, litter from recreation, and direct deposit by wildfowl (SFRWQCB 2013).

1.1.4 Benefits of Green Infrastructure

GI is a long-term solution to reduce the amount of water pollution entering nearby creeks, rivers, and the ocean by utilizing natural systems, such as water retention and the absorption capabilities of vegetation and soil, to treat urban runoff. Adopting and promoting the use of GI will ultimately lead to improved quality of urban water discharge.

GI is associated with many distinctive environmental and human health benefits, especially in urban and highly developed areas. For example, a stormwater curb extension in a commercial area provides both improved water quality and traffic calming. The City will prioritize types and locations of GI measures which provide multiple benefits. Table 2 lists the key benefits of GI.

Table 2. *Green Infrastructure Benefits.*

1.2 Purpose, Goals, and Benefits of the Green Infrastructure Plan

1.2.1 Statement of Purpose and GI Plan Goals

The GI Plan describes how the City will shift its impervious surfaces and storm drain infrastructure from gray (traditional) to green. In other words, the plan describes how the City will change processes and practices over time to convert infrastructure that directs runoff directly into storm drains and receiving waters to GI that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other GI practices to treat stormwater runoff.

The GI Plan also demonstrates the City's long-term commitment to the implementation of GI to help reduce loads of pollutants conveyed in stormwater and discharged into local waterways. The GI Plan establishes milestones for areas of impervious surface to be retrofitted with GI and serves as an implementation guide and reporting tool to provide reasonable assurance that urban runoff TMDL wasteload allocations will be met. It sets goals for reducing the adverse water quality impacts of urbanization and urban runoff on receiving waters over the long term.

The GI Plan identifies means and methods to prioritize particular areas and projects within the City's jurisdiction, at appropriate geographic and time scales, for the implementation of GI projects. Furthermore, it will include means and methods to track the area within the City's jurisdiction that is treated by GI controls and the amount of directly connected impervious area.

The City will aim to meet the milestones established in the GI Plan by incorporating GI, where feasible, into the Capital Improvement Program. In addition, the City will strive to collaborate in regional efforts to improve water quality through multi-jurisdictional projects. To overcome the City's many constraints that prohibit the use of several traditional methods of GI, the City will explore alternatives, such as the use of source control measures.

The GI Plan will coordinate with other local planning documents, such as the General Plan and Climate Action Plan, to achieve multiple potential benefits to the community. These benefits include improved water and air quality, reduced flooding, increased water supply, traffic calming, safer pedestrian and bicycle facilities, climate resiliency, improved wildlife habitat, and a more pleasant urban environment. Refer to Chapter 7, "Integration with Other Planning Documents," for more information about how the GI Plan coordinates with various other planning documents.

The GI Plan goals and objectives are summarized in Table 3.

Table 3. *Green Infrastructure Plan Goals and Objectives.*

GI Plan Goals	Objectives
Protect the Environment	• Improve water quality by using GI to treat stormwater runoff • Protect local creeks and waterways through reduction of sediment and peak runoff • Raise public awareness about pollution prevention
Reduce Urban Flooding	• Reduce peak runoff volumes and velocities using GI
Use Rainwater as a Resource	• Harvest and use runoff for non-potable purposes • Promote neighborhood greening and create habitat using landscape-based GI measures
"No Missed Opportunities"	• Establish procedures and practices to require and implement GI practices in public and private projects as part of the City's regular course of business • Set milestones and goals for water quality improvement • Identify and prioritize areas and projects within the City's jurisdiction for the implementation of GI projects • Incorporate GI, where feasible, in CIP projects • Coordinate the GI Plan with other local planning documents and promote the multiple benefits of GI • Establish a means of tracking potential and completed GI projects

1.2.2 Integration of GI Plan with Provision C.3

The GI Plan's implementation is required, in part, as an alternative to expanding the definition and lowering the threshold of Regulated Projects prescribed in Provision C.3.b.[7] Currently, Regulated Projects are required to treat their site stormwater with LID site design and treatment control measures, thus contributing to the City's overall GI and sustainability goals.

The City is committed to the protection of its natural resources, and to that effect will continue to provide oversight of implementation of LID on private projects in accordance with Provision C.3 requirements and will continue to incorporate LID and GI into Capital Projects.

[7] Since 2006, private or public projects that create or replace 10,000 square feet or more of impervious surface have been Regulated Projects under Provision C.3. of the MRP. Effective December 1, 2011, the threshold was reduced from 10,000 to 5000 square feet for uncovered parking areas, restaurants, auto service facilities, and retail gasoline outlets. Effective 1/1/16, Under MRP 2.0, all projects including single-family dwellings with $\geq 2500 ft^2$ and $<10{,}000 ft^2$ of impervious surface must install one or more of 6 specified LID site design measures.

GI includes both private and public property locations, which allows the City to plan, analyze, implement, and credit GI systems for pollutant load reductions on a watershed scale, as well as recognize all GI accomplishments within the City. One focus of the GI Plan is the integration of GI systems into Non-Regulated public rights-of-way projects. Another objective of the GI Plan, however, is to provide incentives or opportunities for private property owners to add or contribute GI elements to Non-Regulated Projects. The GI Plan is not intended to impose retrofit requirements on private property outside the standard development application review process for projects already regulated by the MRP. The GI Plan also provides a mechanism to establish and implement alternative or in-lieu compliance options for Regulated Projects as well as to account for and justify Special Projects in accordance with Provision C.3.e.[8]

1.2.3 Benefits of Developing a GI Plan

Currently, most of the infrastructure that has been constructed within the City is classified as "gray" infrastructure. The City is working toward fostering a more sustainable urban community by incorporating GI components in CIP projects. This GI Plan can be used to educate City staff, developers, and the general community on both the nature of GI as well as the environmental, economic, and human health benefits of cultivating a climate in which opportunities for incorporation of GI are identified and pursued. Additionally, the GI plan provides guidelines for implementation of GI in future developments. Benefits of this GI Plan include the following:

- Aids the City's and County's mission to create sustainable communities
- Facilitates systematic integration of GI into existing practices
- Identifies priority implementation locations
- Supports the City in meeting current and future permit requirements
- Assists in understanding of compliance costs as well as planning and budgeting for future implementation

1.3 Overview of Green Infrastructure Plan Development Process

1.3.1 Regional and SMCWPPP Guidance and Inter-Agency Collaboration

Since the issuance of MRP 2.0, the City of San Carlos has undertaken a substantial effort to develop the GI Plan. In collaboration with the SMCWPPP Green Infrastructure Technical Advisory Committee (GI TAC), which was formed in April 2016 to address the new permit requirements, the City has worked diligently to develop the elements of the GI Plan. Through SMCWPPP, Permittees provided participation and support for regional (BASMAA) technical projects, memos, and reports.

[8] On November 28, 2011, the SFRWQCB amended the MRP to allow LID treatment reduction credits for smart growth, high density, and transit-oriented development projects which meet certain requirements. Special Projects can use non-LID treatment, such as high flow-rate media filters and high flow-rate tree well filters.

A timeline showing the development of the key work products developed through the GI TAC is provided in Figure 5. These and other deliverables include the following:

- **GI TAC.** Formation of a committee to aid coordination among the San Mateo County Permittees to develop the GI Plans.
- **SRP.** Development of the San Mateo Countywide Stormwater Resource Plan (SRP), which established a prioritization protocol for GI projects and a list of prioritized GI projects.
- **CIP Screening.** Training on the BASMAA GI screening process to aid cities in undertaking an annual evaluation of their Capital Improvement Program for GI potential.
- **GI Workplan.** GI Workplan materials development, including the template, sample staff report, and sample resolution.
- **Green Suite.** Development of Countywide GI Guidelines and Specifications, consisting of the GI Design Guide and C.3 Regulated Projects Guide, referred to as the "Green Suite".
- **GI Funding Analysis.** Evaluation of GI Funding Options, which was summarized in a Nexus Evaluation report developed by SCI Consulting Group on behalf of SMCWPPP, and with input from the GI TAC.
- **RAA.** Completion of a Reasonable Assurance Analysis (RAA), which sets milestones countywide for the amount of stormwater treatment capacity, impervious surface, and sediment reduction which will be provided by each Permittee in 2020, 2030, and 2040.
- **Planning Updates.** Model Planning Document Language, which was a review of various planning documents completed by CD+A on behalf of SMCWPPP and with input from the GI TAC.
- **Alternative Sizing Criteria.** BASMAA Guidance for Sizing GI Facilities in Street Projects & GI Facility Sizing for Non-Regulated Street Projects. This serves to address Provision C.3.j.i.(2)(g) of the MRP, which states, "Permittees may collectively propose a single approach with their Green Infrastructure Plans for how to proceed should project constraints preclude full meeting the C.3.d. sizing requirements."

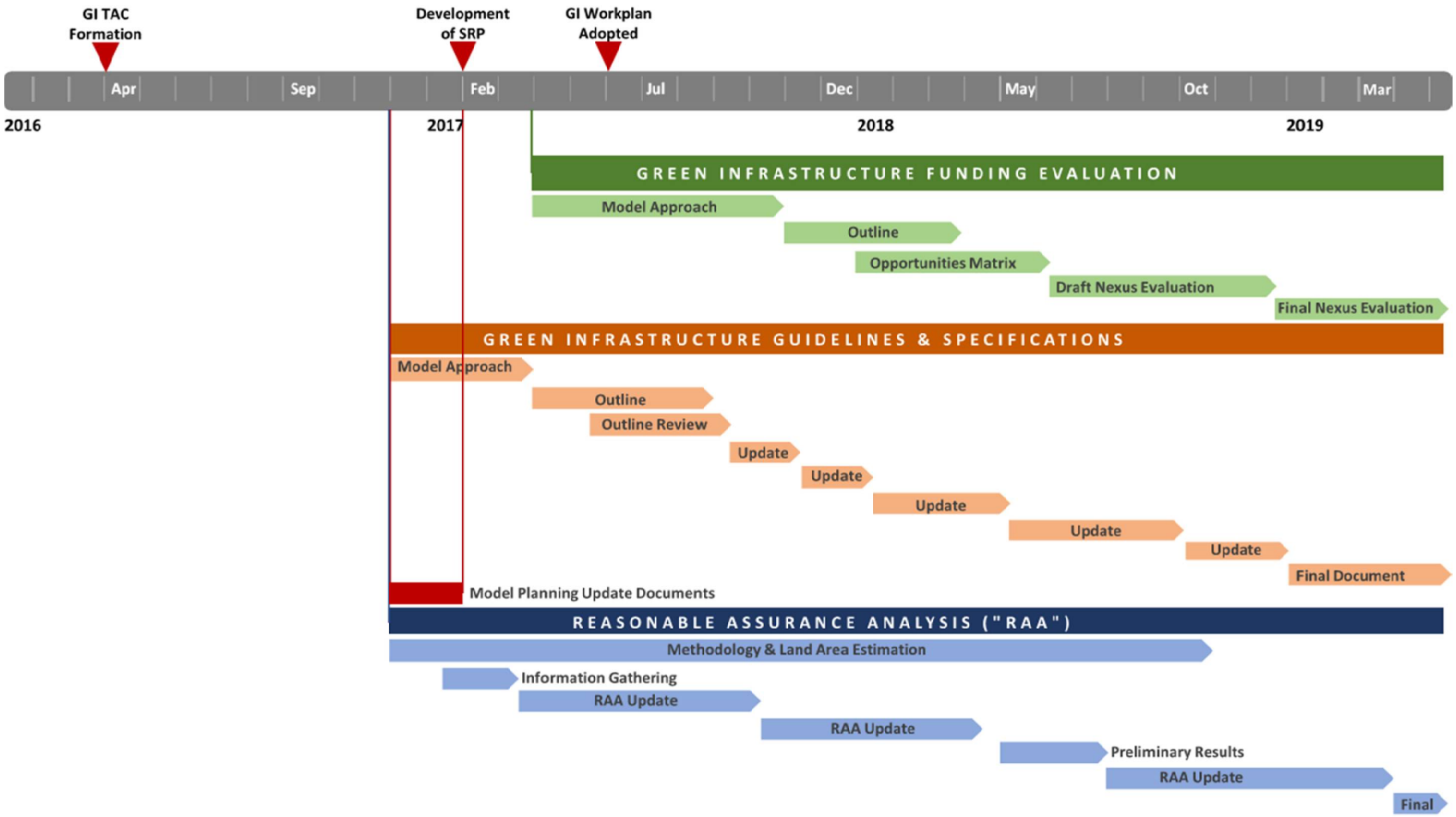


Figure 5. *SMCWPPP Green Infrastructure Technical Advisory Committee Deliverables Timeline.*

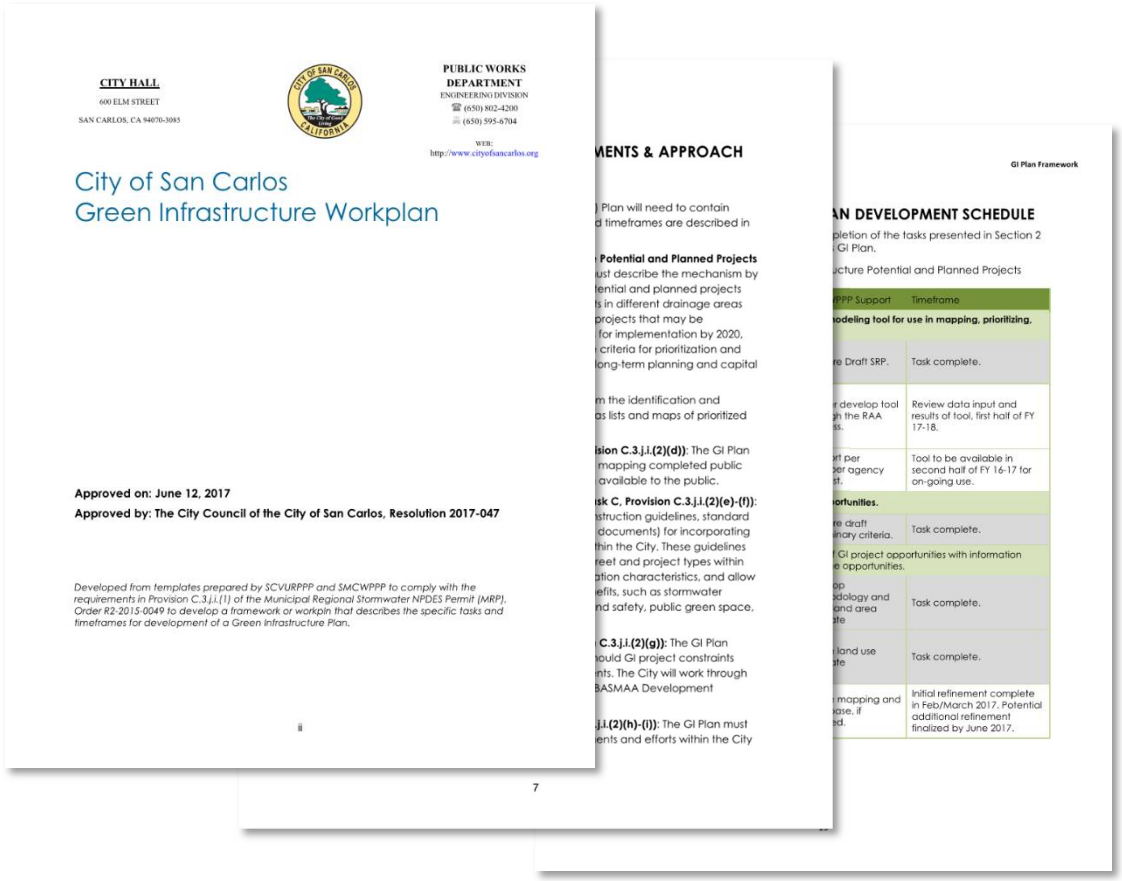
These deliverables make up the key elements and backbone of the GI Plan. Developing these elements at a Countywide level was a significant effort, and required collaboration among the various agencies in San Mateo, all of which have a different local context and perspective. Each GI TAC meeting required a commitment on the part of member agency staff to (1) review discussion items several weeks prior to the meeting, (2) attend meetings a minimum of 2.5 hours in length either remotely or in person, and (3) provide feedback on in-progress or updated versions of deliverables within a few weeks of each meeting.

In order to provide feedback on GI TAC deliverables in a timely manner, an unofficial interdepartmental task force headed by the Public Works Department which consisted of representatives of various other departments was formed. At various stages in the planning process, Public Works coordinated with Planning/Community Development, Parks, the City Attorney, the City Manager's Office, and City Council to discuss the planning requirements and work products.

1.3.2 Workplan Development and Adoption

As part of the GI planning process, the MRP required Permittees to adopt a GI Workplan by June 30, 2017 and submit it to the SFRWQCB by September 30, 2017. The workplan consisted of a framework for completing the GI Plan and included a statement of purpose, tasks, and timeframes to complete the required elements of the GI Plan.

The City of San Carlos adopted a GI Workplan on June 12, 2017 by a council action under Resolution 2017-047.



City of San Carlos Green Infrastructure Workplan, adopted June 12, 2017.

1.3.3 Alignment with City Plans, Policies, and Programs

GI implementation aligns with many other City plans, policies, and programs, such as the General Plan, because it can help to provide multiple benefits to the community, as listed in Section 1.1.4.

Chapter 7, "Integration with Other Planning Documents", describes how existing planning documents coordinate with the GI Plan, and which planning documents will be updated to further support implementation of GI.

Chapter 10, "Implementation Approach", describes how the City's standard operating procedures, municipal code, maintenance program, and internal policies help to support implementation of GI.

1.3.4 Outreach and Education

Chapter 9, "Outreach and Education", describes which outreach and education efforts were conducted at a City- or County-wide level throughout the GI Plan development process. Chapter 9 also describes the education and outreach strategy moving forward to raise awareness about water quality and pollution as well as to help promote the implementation of GI.

1.3.5 Project Oversight

The City convened interdepartmental meetings with affected department staff, including the Public Works and Planning Departments as well as Management Staff, to discuss and develop the GI Plan.

Additional oversight was provided by the GI TAC, where agency staff received information and feedback about various GI Plan elements. In order to develop a GI Plan that was consistent with others being developed in San Mateo and Santa Clara Counties, this GI Plan was developed from a combination of a GI Plan template provided by SCVURPPP, and the model table of contents provided by SMCWPPP.

2.0 CITY DESCRIPTION AND BACKGROUND

2.1 Background and Land Use

Incorporated in 1925, the City of San Carlos is in San Mateo County and has a jurisdictional area of 3346.6 acres, or 5.23 square miles. The City of San Carlos is located on the San Francisco Peninsula between Belmont and Redwood City, as shown in Figure 6. The City limit extends to the City of Belmont to the northwest, the San Francisco Bay to the northeast, the City of Redwood City to the southeast, and unincorporated San Mateo County to the southwest.

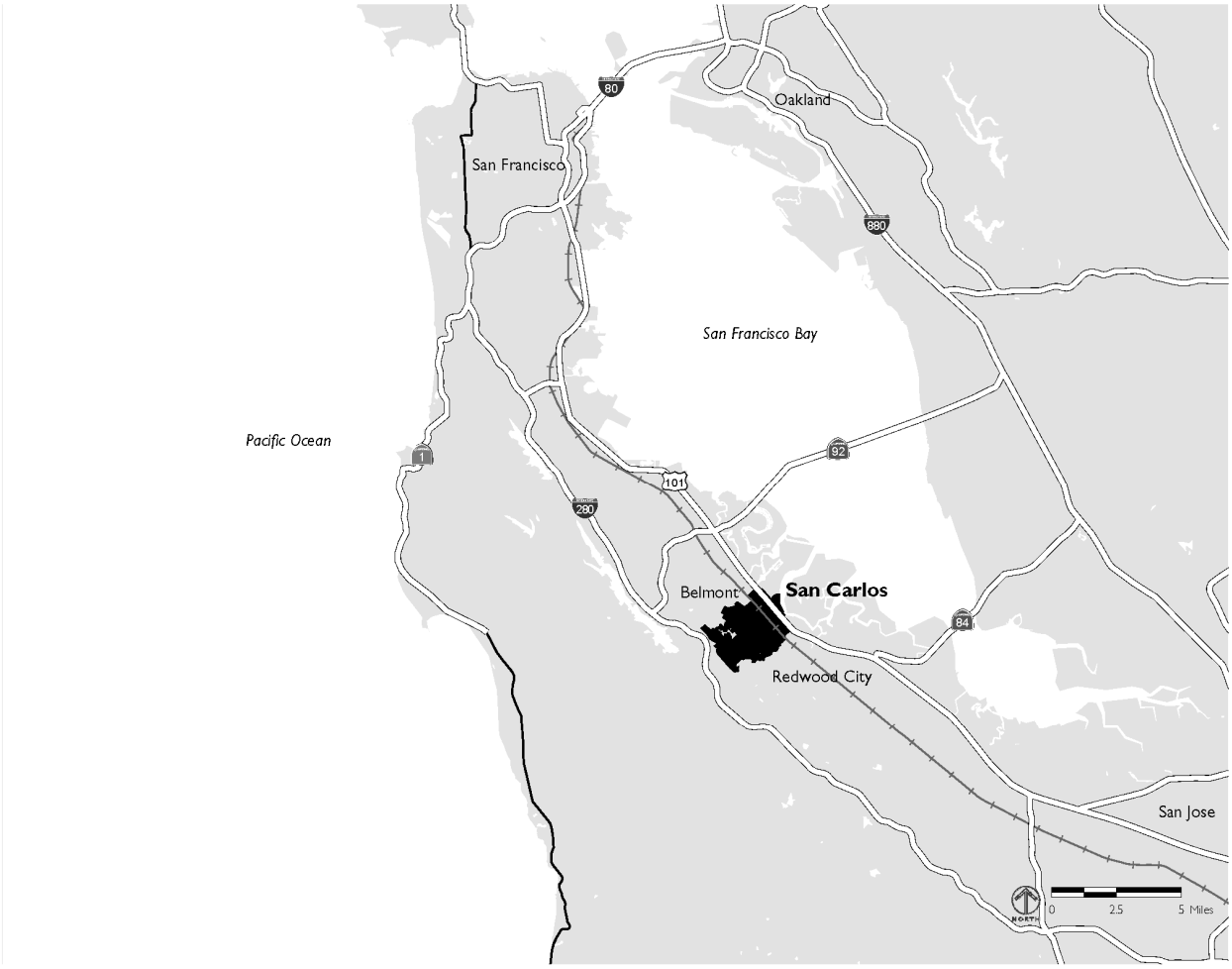


Figure 6. *Regional Location (San Carlos 2030 General Plan).*

Land uses within the City of San Carlos are provided in Table 4 and Figure 7. Most of San Carlos's area is comprised of residential uses.

***Table 4**. Percentage of San Carlos's Area Within Land Use Designations Identified in San Carlos 2030 General Plan[9].*

Land Use Designation	Area (Acres)	Percent
Single-Family, Low Density	358	14%
Single-Family	1,221	49%
Multiple-Family, Low Density	75	3%
Multiple-Family, Medium Density	52	2%
Mixed Use, Low Density	27	1%
Mixed Use, Medium Density	63	3%
Mixed Use, Medium-High Density	7	0.30%
Neighborhood Retail/Mixed Use, Medium Density	23	1%
Neighborhood Retail	1	0.03%
Planned Industrial	278	11%
General Commercial/Industrial	121	5%
Public	4	0.20%
Park	60	2%
Open Space	94	4%
Open Space/Schools*	71	3%
Airport	24	1%
TOTAL	**2,480**	**100%**

**May include non-jurisdictional areas.*

A Permittee's jurisdictional area is defined as the urban land area within a Permittee's boundary that is not subject to stormwater NPDES Permit requirements for traditional or non-traditional small MS4s (i.e., Phase II MS4s), including school districts, the California Department of Transportation, and areas owned and maintained by the State of California, the U.S. federal government, or any other municipal agency or special district, such as the flood control district. In Table 4, the "Open Space/Schools" category may include non-jurisdictional areas.

[9] *Source: San Mateo County Assessor's Office, 2008.*

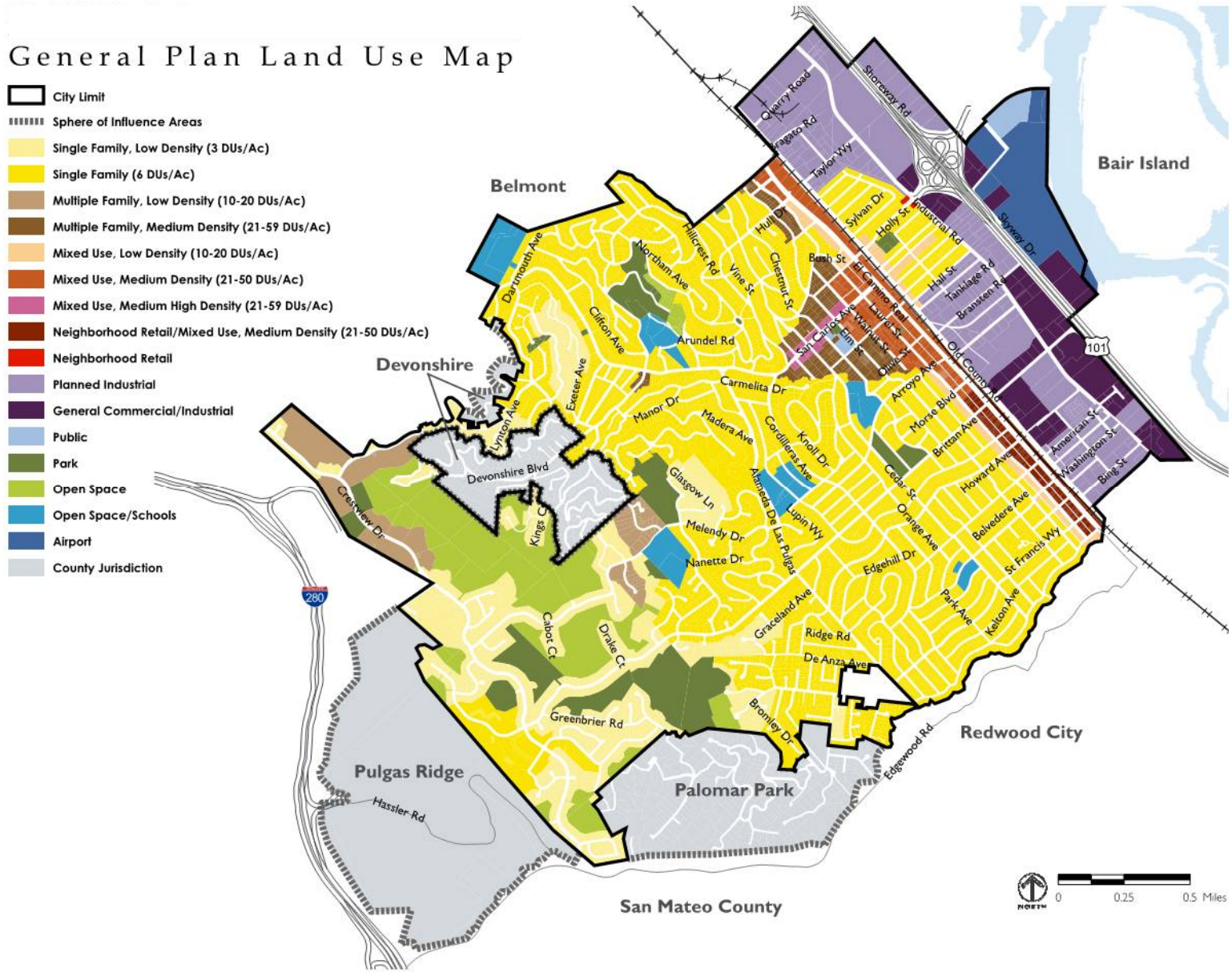


Figure 7. *Land Use Map (San Carlos 2030 General Plan).*

The portion of the City east of El Camino Real consists of primarily industrial or commercial uses. San Carlos has a very popular downtown retail and restaurant corridor along El Camino Real and Laurel Street which attracts many visitors. The portion of the City west of Laurel Street is primarily comprised of residential, school, or urban park uses. The City contains several elementary and middle schools, including Arundel School, Brittan Acres School, Heather School, White Oaks School, Arroyo School, Central Middle School, Terra Linda Middle School, and San Carlos Charter Learning Center. The City owns and maintains sixteen parks (Arguello Park, Big Canyon Park, Burton Park, Cedar Street Neighborhood Park, Chilton Park, City Hall Dog Park, Crestview Park, Eaton Park, Frank D. Harrington Park, Heather Dog Exercise Area, Highlands Park, Hillcrest Circle Park, Laureola Park, North Crestview Park, San Carlos Neighborhood Park, and Vista Park) as well as an adult community center and a youth center.

2.2 Water Resources

The City's drainage system is comprised of catch basins, manholes, pipes, conveyance channels, creeks, ditches, pump stations, and overland flow. In general, the City drains from the residential areas in the hills at the west side of the City toward the commercial areas at the east side of the City to the San Francisco Bay via four outfalls. The City has four major creeks:

- **Belmont Creek.** Located at the northern San Carlos Boundary in the east, Belmont Creek flows into Belmont Slough and O'Neill Slough. Belmont Creek is primarily owned and maintained by the City of Belmont, except for a portion at the northeast corner of the City at Old County Road and Industrial Road, which is jointly maintained by the City of San Carlos and the City of Belmont.
- **Pulgas Creek.** Starting near Devonshire Blvd, Pulgas Creek traverses east, generally along and south of San Carlos Avenue, before it is piped at Elm Street and School Street to the Pulgas Creek pump station. After the pump station, the creek flows east toward the San Francisco Bay.
- **Brittan Creek.** Privately owned and maintained, Brittan Creek begins along Graceland Avenue, has mostly unhardened channels in the upper reaches and hardened channels in the lower flatlands, and joins Pulgas Creek via an underground conduit.
- **Cordilleras Creek.** Bordering the City of San Carlos and the City of Redwood City is Cordilleras Creek. The upper portion of the creek is privately owned and maintained, and the lower portion is jointly maintained by the City of San Carlos and the City of Redwood City.

The City's wetlands and watersheds are shown in Figure 8. The City completed a Citywide Storm Drain System Master Plan in April 2017 and identified several necessary storm drain capital improvements.

Figure 8. *Wetlands and Waterbodies in San Carlos.*[10]

[10] *San Carlos 2030 General Plan.*

2.3 Transportation

Regional vehicular access to San Carlos is provided by Interstate 280 just west of the City limits, US Highway 101 passing along the eastern perimeter of the City, and State Route 82 (El Camino Real) which passes through the heart of the City.

The City of San Carlos is connected to public transportation through rail and bus. The City is connected to Caltrain rail service which connects Gilroy to San Francisco. Bus connections are provided by Santa Clara Valley Transportation Authority (VTA) and San Mateo County Transit District Busses. These connections are valuable as a significant portion of San Carlos residents work in San Francisco, north San Mateo County, San Jose, or Santa Clara County.

The City is currently in the process of creating a Bicycle and Pedestrian Master Plan which will identify and prioritize new bikeways, walkways, trails, and pedestrian enhancements throughout San Carlos.

2.4 Population and Growth Forecasts

According to the 2013 California Department of Finance population estimate, the City has a population of 28,931 residents.[11] The City experienced a relatively stable population growth from 1990 to 2010, and this is projected to continue. Estimates of future growth indicate a moderate and steady increase in population over the next 20 years. By the year 2030, the Association of Bay Area Governments (ABAG) estimates that the population of San Carlos will reach 32,700.[12]

According to the 2013-2017 American Community Survey, San Carlos has a population of 29,954[13], with a population density of 5126.5 people per square mile and average household size of 2.62. Of the 29,954 residents who call San Carlos home, 26% are under the age of 20, 3% are between 20 and 24, 24% are between 25 and 44, 31% are between 45 and 64, and 15% are 65 or older. The median household income was $110,929 in 2010.

Figure 9 represents the anticipated population growth between 1990 and 2030.

[11] *Estimates.* (Accessed 2019). State of California. Department of Finance. http://www.dof.ca.gov/Forecasting/Demographics/Estimates.

[12] *San Carlos 2030 General Plan, 2015-2023 Housing Element.* City of San Carlos. Community Development. Planning Department.

[13] *American FactFinder.* United States. Census Bureau. Accessed 2019. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

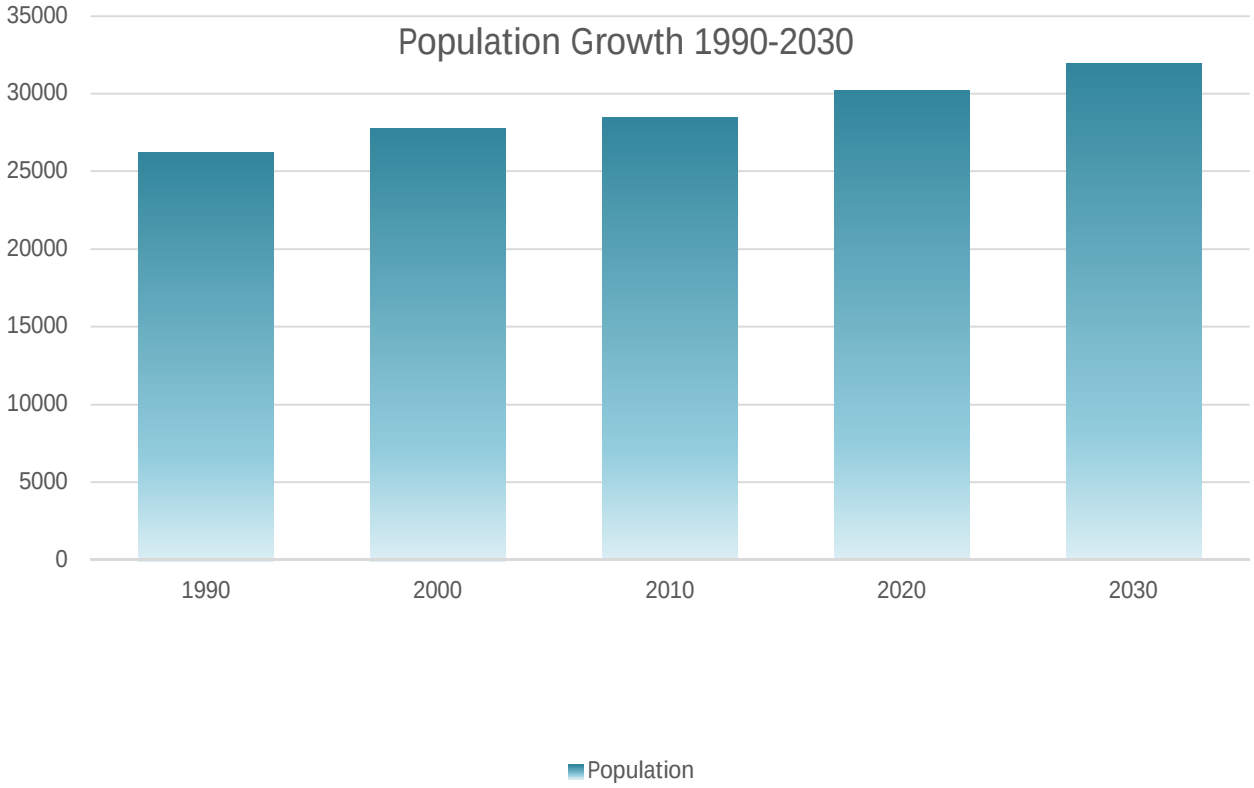


Figure 9. *San Carlos Population Growth 1990-2030.*

2.5 Characteristics that Impact GI Implementation

Specific City characteristics that may restrict GI implementation include the following:

- **Limited Resources.** The City of San Carlos's capital infrastructure is aging and in need of significant repair and upgrade, and capital needs already exceed available funding. In addition to limited funding, the City has very limited staff available to manage capital projects.
- **Recuperation of Funds.** The City does not have a storm drainage impact fee or equivalent which allows for the recuperation of storm drainage improvements or maintenance costs.
- **Highly Residential.** The City's land use consists of roughly 66% residential areas, consisting of primarily single-family homes. Single-family homes are not subject to Provision C.3 treatment requirements, except when constructed as part of a larger development. Therefore, opportunities to implement GI as part of Provision C.3 in these areas will be limited.
- **Difficult Terrain.** The City's residential areas to the west are comprised of hilly terrain, which is not ideal for the installation of many types of GI measures, such as permeable pavers.
- **Limited New Development Opportunities.** Most of the City is built-out, with very little vacant land available. This limits the space available for GI through new development.

- **Limitations on use of Infiltration-Based Measures.** Certain characteristics of the City prohibit the use of infiltration-based treatment measures in some areas, including the following:
    - *Groundwater level.* The seasonal groundwater level in San Carlos is high in areas east of El Camino Real due to the low elevation and proximity to the San Francisco Bay.
    - *Soil Composition*. The soil types in the City generally have low permeability rates.
    - *Soil Contamination*. Industrial properties east of El Camino Real may have contaminated soils.
- **Flooding Issues.** The City has a high potential for flooding due to the combined impacts of high tides, heavy storm flows, sea level rise, and the flat topography in the industrial area of the City. The City's storm drain system requires significant maintenance and improvement.

Specific City opportunities that may positively affect GI implementation include the following:

- **Hydromodification Policy.** The City has an existing hydromodification policy which requires developments to maintain pre-development runoff flows[14]. This policy may be met through use of GI strategies such as infiltration but may also consist of non-infiltrative measures such as detention in a large diameter pipe. In either case, a hydromodification policy reduces the speed at which runoff enters the storm drain system and therefore receiving water bodies, reducing negative impacts like high stream velocity and erosion, which can agitate sediment and degrade stream quality.
- **Continued CIP Screening.** The City will continue to screen its Capital Improvement Program for projects that may have GI potential.
- **Climate Resiliency Synchronicity.** The City published a Climate Action Plan in 2009. It may be possible to coordinate resiliency upgrades for climate change readiness with GI.
- **Pedestrian and Bicycle Improvements Synchronicity.** A bicycle and pedestrian study is being developed which will include a comprehensive pedestrian and bicycle evaluation to determine the potential for improvements. This study is an opportunity for the City to perform an early assessment of GI opportunities that can be effectively combined with safe routes to school improvements. Further review of GI potential can be undertaken with the design of the safe routes to school projects.

[14] Refer to Chapter 13.14.110, "Reduction of pollutants in stormwater", of the City of San Carlos Municipal Code, which states that the City "may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants". In practice, the City requires developments to maintain pre-development runoff flows.

- **Redevelopment Opportunities.** The City has a fair amount of commercial and light industrial land that is underutilized and being redeveloped. Recent and upcoming redevelopment projects include GI as part of compliance with Provision C.3 of the MRP.

3.0 GREEN INFRASTRUCTURE MILESTONES

3.1 Regulatory Background

Provision C.3.j of the MRP specifies that the GI Plan should include the following:

> *"Targets for the amount of impervious surface, from public and private projects, within the Permittee's jurisdiction to be retrofitted over the following time schedules, which are consistent with the timeframes for assessing load reductions specified in Provisions C.11 and C.12: (i) By 2020; (ii) By 2030; and (iii) By 2040."*

Provision C.11.c of the MRP establishes mercury load reduction performance criteria and Provision C.12.c of the MRP establishes PCBs load reduction performance criteria over specified compliance periods to be achieved via GI at the Countywide level.

3.2 Determining Load Reduction Milestones

3.2.1 Reasonable Assurance Analysis (RAA) Background

Collectively, San Mateo County Permittees (including the City of San Carlos) prepared a Reasonable Assurance Analysis (RAA) to demonstrate quantitatively that the proposed control measures will result in sufficient load reductions to meet Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) and set goals for the amount of GI needed to meet the portion of PCB and mercury load reduction the MRP assigns to GI (SFBRWQCB 2015). The RAA allows the City to engage in a cooperative effort with other San Mateo County municipalities while also operating under City-specific stormwater quality goals and the City's unique implementation strategies, tools, and processes set forth in this GI Plan.

The RAA is a tool for San Mateo County Permittees to achieve the following:

1. Determine a quantitative City-specific 2040 load reduction goal. If each municipality meets this goal, then San Mateo County will collectively have met the performance criteria of the MRP.
2. Establish sample "recipes" for achieving load reduction, through a combination of existing projects, future new and redevelopment, regional projects, and green streets.
3. Evaluate the financial resources needed to meet the 2040 goal and determine the feasibility of meeting this goal based on City context, knowledge, and opportunities.
4. Serve as a discussion tool to facilitate conversations about countywide collaboration, such as the pooling of funds to construct regional projects, or the use of a credit trading program.
5. Project the amount of GI to be constructed via future new development and redevelopment.
6. Assist the City in forecasting the relative ease or difficulty of green street implementation, based on a prioritization of green street opportunities.

7. Facilitate the creation of a tracking tool for GI implementation by establishing goals that are easily tracked and measured.

The EPA RAA Guide provides an example of three differing perspectives for defining reasonable assurance (USEPA 2017):

- **Regulator Perspective.** Reasonable assurance is a demonstration that the implementation of a GI Plan will result in sufficient pollutant reductions over time to address TMDL WLAs or other targets specified in the MRP.
- **Stakeholder Perspective.** Reasonable assurance is a demonstration that specific management practices are identified with sufficient detail and implemented on a schedule to ensure that necessary improvements in water quality will occur.
- **Permittee Perspective.** Reasonable assurance is based on a detailed analysis of the TMDL WLAs and associated MRP targets themselves, and a determination of the feasibility of those requirements. The RAA may also assist in evaluating the financial resources needed to meet pollutant reductions based on schedules identified in the MRP.

The SMCWPPP RAA was developed by Paradigm Environmental, and consists of two reports:

- **Phase I Baseline Modeling Report.** Provides documentation of the development, calibration, and validation of the baseline hydrology and water quality model, and the determination of PCB and mercury load reductions to be addressed through GI implementation (SMCWPPP 2018b).
- **Phase II Green Infrastructure Modeling Report.** Provides documentation of the application of models to determine the most cost-effective GI implementation on a municipality-specific basis, setting stormwater improvement goals for the GI Plan (SMCWPPP 2019c).

Per the EPA "Developing Reasonable Assurance" guide, stormwater NPDES programs are shifting from a modeling- and analytical-based approach to water quality requirements to a focus on the specific stormwater management strategies and processes that will be necessary over the long term to achieve water quality goals. The RAA acts as a benchmarking strategy and process for assessment of the City's progress in implementing GI. The planning process inputs and outputs of a reasonable assurance analysis are summarized in Figure 10.

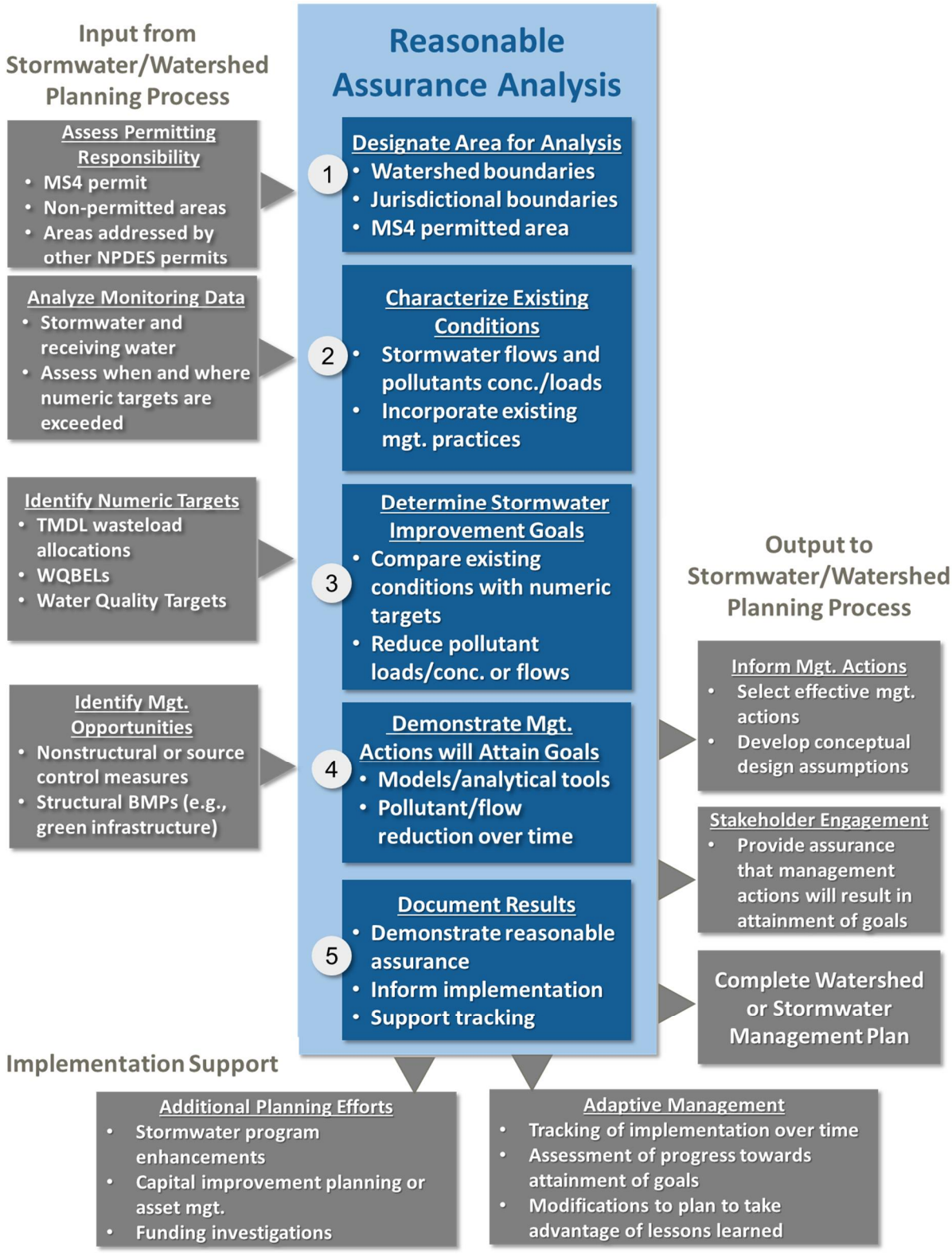


Figure 10. *Reasonable Assurance Analysis Process (USEPA 2017).*

3.2.2 RAA Modeling Process

Pollutants, like PCBs and mercury, attach to cohesive sediments, like silts and clays, and do not settle out before discharging to the Bay. Using data such as rainfall, land use, impervious surface, elevation, slopes, evaporation and infiltration, San Mateo County subwatersheds were modeled to establish stormwater runoff and total sediment loads. By reducing the amount of cohesive sediment with GI projects, the pollutants are also reduced.

Using the runoff and sediment load as an input, the watersheds were modeled using the System of Urban Stormwater Treatment & Analysis (SUSTAIN), which was developed by the EPA's Office of Research and Development. This software is a cost-benefit optimization model that runs iteratively to evaluate various GI opportunities.

The basic modeling system of the RAA is further described in Figure 11.

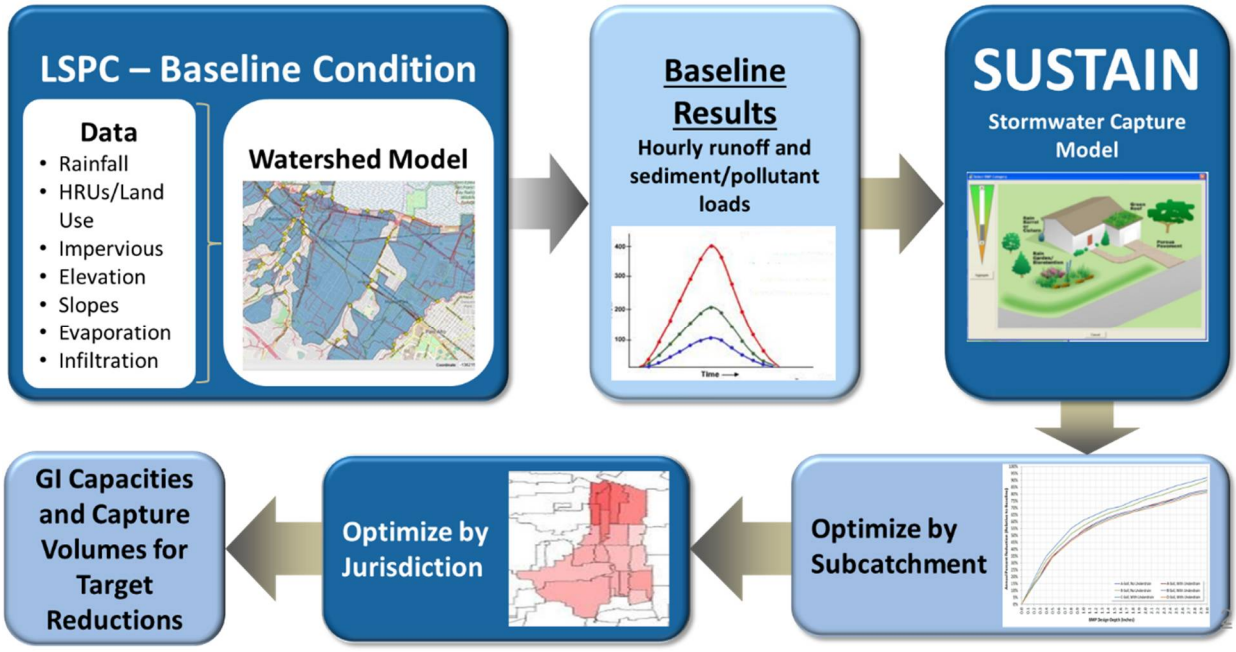


Figure 11. *Reasonable Assurance Analysis Modeling (SMCWPPP 2018a).*

3.2.3 Determination of Water Quality Goals

As discussed in Section 3.2.1, depending on the perspective of the regulators, stakeholders, or Permittees, the purpose and expectations of the RAA can vary in terms of how reasonable assurance is demonstrated. As a result, the output from the RAA must consider multiple perspectives and strike the right balance between detail and specificity while still leaving ample opportunity to allow for future adaptive management. The following are key considerations for the RAA output:

- **Demonstrate PCBs and Mercury Load Reductions.** The primary goal of the RAA is to quantitatively demonstrate that GI Plans and Control Measure Implementation Plans will result in load reductions of PCBs and mercury sufficient to attain their respective TMDL WLAs and the

component stormwater improvement goals to be achieved with GI. Development of these milestones is further described in Section 3.2.4.

- **Develop Metrics to Support Implementation Tracking.** The MRP (Provision C.3.j) also requires tracking methods to provide reasonable assurance that TMDL WLAs are being met. Through C/CAG's current effort preparing a Sustainable Streets Master Plan for San Mateo County, a tracking tool is under development that will enable calculation of metrics consistent with the results of the RAA and additional metrics relevant to sustainable street implementation. The tracking tool is planned for completion in 2020. This is further described in Section 5.5.
- **Support Adaptive Management.** Given the relatively small scale of most GI projects (e.g., use of LID on an individual parcel or conversion of a single street block converted to a green street), numerous individual GI projects will be needed to address pollutant reduction goals. All the GI projects will require site investigations to assess feasibility and costs. As a result, the RAA provides a preliminary investigation of the amount of GI needed spatially (e.g., by subwatershed and municipal jurisdiction) to achieve the countywide pollutant load reduction goal. The RAA sets the GI Plan "goals" in terms of the amount of GI implementation over time to address pollutant load reductions. As GI Plans are implemented and more comprehensive municipal engineering analyses (e.g., masterplans, Capital Improvement Programs) are performed, the adaptive management process will be key to ensuring that goals are met. In summary, the RAA informs GI implementation goals, but the pathway to meeting those goals is subject to adaptive management and can potentially change based on new information or engineering analyses performed over time. **Adaptive management is further discussed in Section 5.6.**

The RAA also considered multiple alternative scenarios that can inform implementation and the adaptive management process. These scenarios demonstrate the need for further research, collaboration among multiple Permittees, and incorporation of lessons learned in order to gain efficiencies and maximize the cost-effectiveness of GI to reduce pollutant loads over time.

3.2.4 PCBs and Mercury Load Reduction Milestones

The MRP specifies a PCB and mercury wasteload allocation which is assigned to San Mateo County based on population. From this baseline load, the contribution from open space areas, sites covered under other discharge permits (such as schools and other Phase II permittees, and sites covered under an industrial discharge permit), Caltrans right of way, and areas that drain to the ocean were removed. The remaining amount of wasteload allocation is what is controlled by the MRP in urban areas.

Based on the baseline hydrology and water quality model, the RAA determined that a 17.6% reduction in PCB loads is needed to meet the GI implementation goals established by the MRP. Zero reduction in mercury loads was determined to be needed from MRP areas because baseline loads were predicted to be below the TMDL WLA for San Mateo County. As a result, a 17.6% reduction in PCB loads is established as the primary pollutant reduction goal for the GI Plan.

Figure 12 represents various model scenarios that were considered during the RAA development. Scenarios 1 and 2 are explored further in this chapter. Scenarios 3 and 4 are not recommended, due to the uncertainties involved in terms of how PCB source areas are represented in the model, which will require more monitoring and analysis in the future to gain an improved understanding of PCB source areas and the ability to target these areas with GI. PCBs are difficult to model, track, and sample compared to cohesive sediment.

Load Reduction Objective	Percent of Total GI Cost to Achieve Reduction Objective		
	Jurisdictional	Countywide	*Total Savings (Jurisdictional vs. Countywide)*
Cohesive Sediment 17.6% Reduction	**Scenario 1**	**Scenario 2**	→ *Savings*
Total PCBs 17.6% Reduction	**Scenario 3**	**Scenario 4**	→ *Savings*
Total Savings (Sediment vs. PCBs)	↓ *Savings*	↓ *Savings*	↘ *Overall Savings*

Figure 12. *Model scenarios objectives and cost-benefit evaluation (SMCWPPP 2018a).*

- **Scenarios 1 and 2.** With a cohesive sediment load reduction objective, Scenarios 1 and 2 represent the most conservative approaches. Those scenarios assume that given the uncertainties about PCB source areas, targeting an overall 17.6% load reduction of cohesive sediment in general (silts and clays) achieves the PCB load reduction objective for GI.

  Since PCBs are generally understood to be transported with cohesive sediment (e.g., silt and clay), cohesive sediment load can serve as a surrogate on which to base a load reduction target. The RAA considers a 17.6% reduction of cohesive sediment load as a more conservative surrogate until a better understanding is reached in terms of specific PCB source areas within the County. If additional PCB source areas are confirmed, these areas could be targeted for source control measures or additional GI implementation, likely resulting in greater effectiveness for GI to reduce PCB loads in those areas, and thus redistributing or reducing the overall amount of GI needed to meet the load reduction target based on sediment loading estimates.

- **Scenarios 3 and 4.** These scenarios assume that PCB sources are spatially distributed based on analysis of land use types. The cost-benefit optimization process targets those areas as having the highest likelihood of PCB sources. Scenarios 3 and 4 highlight the potential cost savings (relative to Scenarios 1 and 2) that could be realized if PCB sources are identified and targeted for GI implementation.

By targeting a total sediment load reduction rather than a pollutant-specific (like PCB) load reduction, GI installed in any location in San Mateo County which drains to the San Francisco Bay can help contribute to the load reduction.

3.3 Approach to Load Reduction Milestones

3.3.1 Jurisdictional vs. Countywide Approach

There are two potential approaches the various municipalities within San Mateo County may consider:

- **Jurisdictional Approach.** Each municipality would be individually responsible for a 17.6% load reduction that is proportional based on population.
- **Countywide Approach.** Each municipality agrees to reduce overall PCBs within the County by focusing on municipalities with the potential to implement more efficient and numerous GI opportunities.

The Countywide approach is projected to result in a cost reduction for each municipality and is a better reflection of a more realistic breakdown of GI throughout San Mateo County. Some agencies will have more capacity to implement GI, while others will have less. A countywide approach is not only more cost effective, but also provides a vehicle for collecting funding for regional project opportunities, the costs of which can be shared by multiple jurisdictions. It also provides a vehicle for credit trading between agencies. Refer to the "Green Infrastructure Funding Nexus Evaluation" (SCI Consulting Group and Larry Walker Associates, January 2019) for more information about credit trading.

The RAA allows for the possibility of credit trading by providing multiple management metrics for GI, such as impervious area to be treated in acreage, and GI capacity in acre-feet. **Refer to Section 3.4.3 for more information about the RAA's management metrics.**

3.3.2 Modeled Green Infrastructure Opportunities

For the purposes of the RAA, GI represents a group of structural control measures that provide similar processes for the capture, infiltration, and/or treatment of urban runoff prior to discharge to receiving waters, such as bioretention areas and permeable pavers. **For more information about the methods used to identify and screen potential projects, refer to Chapter 4, "Project Identification and Prioritization".** GI opportunities incorporated into the model include the following:

1. **Existing Projects.** Stormwater treatment measures and GI projects that have been implemented since FY -2004/05. This is primarily all the Regulated Projects that were mandated to treat runoff via Provision C.3 of the MRP, but also includes any public green street or other demonstration projects that were not subject to Provision C.3 requirements. For Regulated Projects in the early years of C.3 implementation, stormwater treatment may have been achieved through non-GI means, such as underground vault systems or media filters.

2. **Future New and Redevelopment (Low Impact Development).** Low impact development uses a suite of technologies intended to imitate pre-urbanization (natural) hydrologic conditions. LID captures and treats runoff before it can reach downstream waterbodies. LID projects are located on discrete parcels and sites, and do not include green streets (see below for further information). Examples include green roofs, bioswales, bioretention areas, permeable pavement, and infiltration trenches. These are Regulated projects that will be subject to Provision C.3 requirements to treat runoff via GI per the MRP. The RAA modeled these projects based on spatial projections of future new and redevelopment tied to regional models for population and employment growth. **For a map of prioritized LID projects, refer to Appendix C.**

3. **Regional Projects.** Regional stormwater capture projects consist of facilities that capture and treat stormwater from offsite. The primary objective of regional projects is often flood attenuation, but many also contain a water quality treatment or infiltration component. Common examples include detention basins, retention basins, and subsurface infiltration galleries. Ideal locations are large public spaces, such as public parks, sports fields, parking lots, and school grounds (SMCWPPP 2017). The San Mateo County Stormwater Resource Plan (SRP) identifies projects which provide regional capture and infiltration/treatment of stormwater and includes conceptual design to support further planning and designs. This list of regional projects has been further refined since the SRP was developed to update the RAA. **For a map of prioritized regional projects, refer to Appendix C.**

4. **Green Streets.** Green streets consist of stormwater capture infrastructure that is implemented in public rights-of-way. These projects include permeable pavement, bioretention areas, and stormwater curb extensions. The SRP identifies and prioritizes opportunities throughout San Mateo County for retrofitting existing streets with GI in public rights-of-way. This prioritization was refined with the RAA, using feedback from the GI TAC. The green streets were further broken up into high, medium, and low priority, to represent the projects which have the greatest (high priority) or least (low priority) potential for a cost-effective installation of a GI measure. **For a map of prioritized green streets, refer to Appendix C.**

5. **Other GI Projects (to be determined).** Other types of GI projects on publicly owned sites, representing a combination of either additional parcel-based GI or other Regional Projects. The SRP screens and prioritizes public parcels for opportunities for onsite LID and Regional Projects. These opportunities need further investigation to determine those with the greatest potential.

Together, modeled GI opportunities listed above present the "recipe" for attaining the water quality milestones. The contribution from each project category is simulated in the RAA, but the actual contribution will depend upon the opportunities which arise through development, through capital projects, and through regional collaboration between now and 2040. Figure 13 represents how the GI opportunities will be sequenced to first take advantage of the projects with the lowest implementation cost before incorporating the use of more costly GI opportunities.

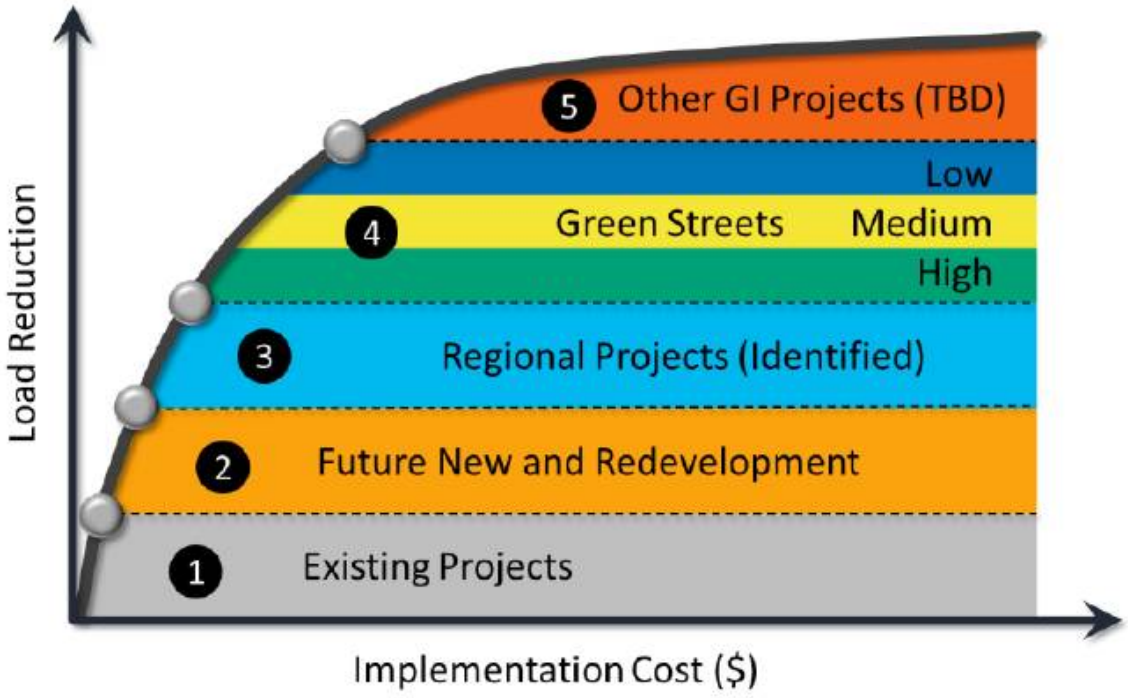


Figure 13. *Example Implementation Recipe Showing General Sequencing of GI Projects (SMCWPPP 2018a).*

3.4 City-Specific Water Quality Milestones

As a result of the RAA, each municipality is provided a range of options to achieve a 17.6% reduction in sediment. The parameters provided include the (1) volume of annual runoff to be managed, (2) area of impervious surface to be managed, and (3) capacity of GI measures to be constructed. The RAA presents a "recipe" for how much GI might be constructed in each area of the City, but the actual implementation of GI will be dependent upon opportunities and funding.

3.4.1 Jurisdictional Approach

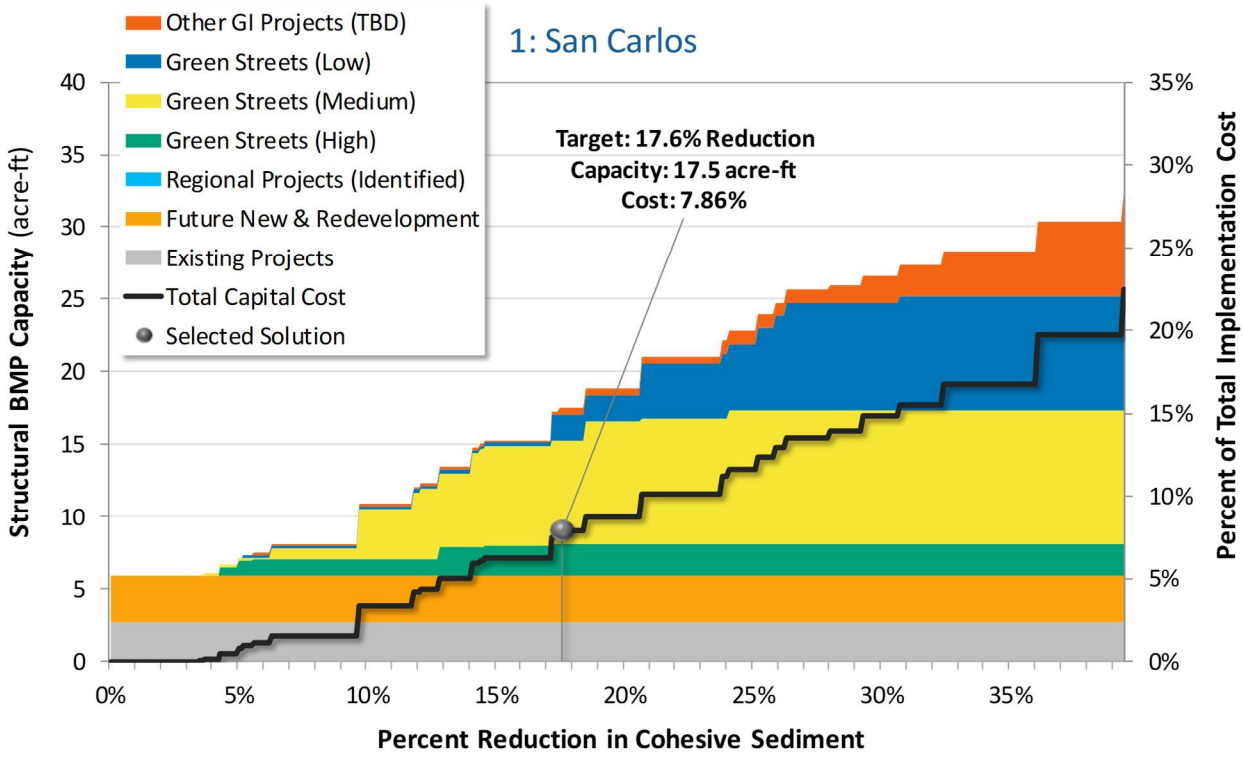


Figure 14. *Optimization summary for San Carlos, sediment goal (by jurisdiction).*

Figure 14 displays the most cost-effective path for the City to reach the 17.6% sediment reduction goal. The left Y-axis is paired with the colored bars and displays the structural BMP capacity in acre-feet. The X-axis displays the percent reduction in cohesive sediment. The right Y-axis is paired with the black line and displays the percent of the total countywide implementation cost that would be paid by the City.

To read the graph, follow the black line until you reach the desired point along the X-axis (in the above graph, this is 17.6% sediment reduction). Imagine a vertical line slicing through the entire graph at this point. The highest part of this line that touches a colored bar represents the structural BMP capacity required to reach the sediment reduction goal (in the above graph, this is 17.5 acre-feet). These 17.5 acre-feet will be achieved via existing projects (about 2.5 acre-feet), future new developments and redevelopments (about 2.5 acre-feet), high priority green streets (about 2 acre-feet), medium priority green streets (about 8 acre-feet), low priority green streets (about 2 acre-feet), and other GI projects (about 0.5 acre-feet). Now return to the selected point along the black line and imagine a horizontal line slicing through the entire graph at this point. Follow this line to the right Y-axis to find the percent of the total countywide cost that would be paid by the City under the proposed plan (in the above graph, this would be 7.86%).

As the percent reduction in sediment increases, the acre-feet of structural BMP capacity as well as the percent of total implementation cost also increase. The most efficient methods are used first up to their capacity and then less efficient methods follow (for example, in the above graph, high priority green street

projects are at near-capacity before any medium priority green street projects are introduced, and these in turn are at near-capacity before any low priority green street projects are introduced.

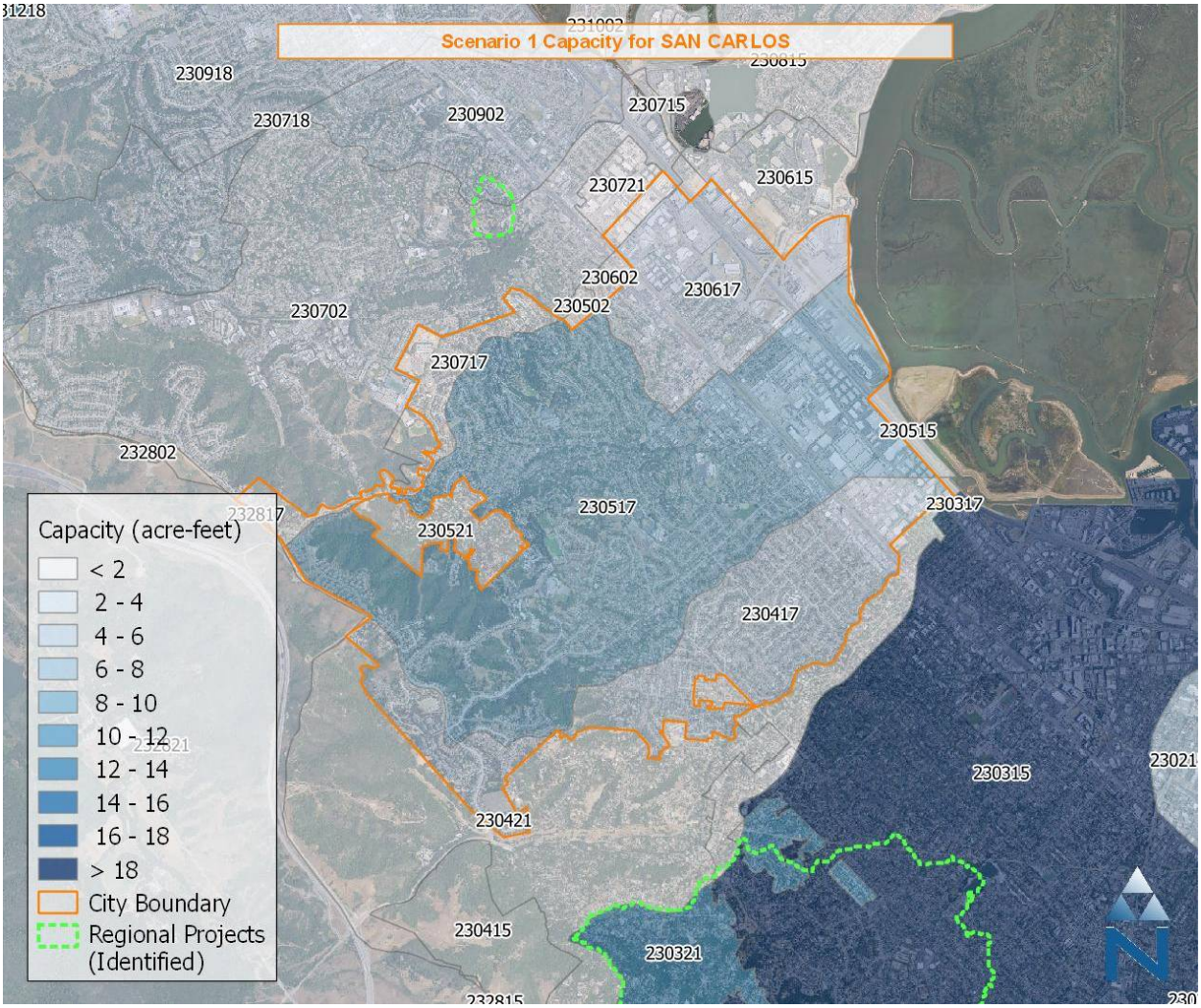


Figure 15. *Scenario 1: San Carlos, sediment goal (by jurisdiction).*

The above map (Figure 15) shows the various subwatersheds located within the City, along with the planned structural BMP capacity of each area to be utilized within the City under the jurisdictional approach.

Table 5. *Scenario 1, San Carlos: Sediment Goal (By Jurisdiction, With Regional Projects).*

Subwatershed ID	Management Metrics for GI			Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
				Existing/Planned			Green Streets				
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Impervious Area Treated (acres)	Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low	Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
230317	50%	0.57	0.64	--	0.00	--	--	--	--	0.03	**0.0**
230417	18%	96.09	45.38	0.14	0.66	--	2.10	0.77	1.65	--	**5.3**
230517	18%	148.34	113.07	0.44	1.33	--	0.01	6.67	--	--	**8.4**
230617	19%	46.58	57.92	2.01	1.11	--	0.03	0.87	--	--	**4.0**
230717	24%	16.43	19.16	0.10	0.11	--	0.03	0.17	0.20	0.39	**1.0**
232817	36%	0.39	0.13	--	--	--	--	--	--	0.02	**0.0**
Total	**18.4%**	**308.4**	**236.3**	**2.7**	**3.2**	**--**	**2.2**	**8.5**	**1.9**	**0.4**	**18.8**

Table 5 shows several points of data for each subwatershed as well as the overall total for the City. Using this table, one can determine which subwatersheds will contribute the most toward the City's overall sediment reduction, green street construction, and many other parameters. Table 5's data were calculated assuming the City will pursue the jurisdictional approach.

3.4.2 Countywide Approach

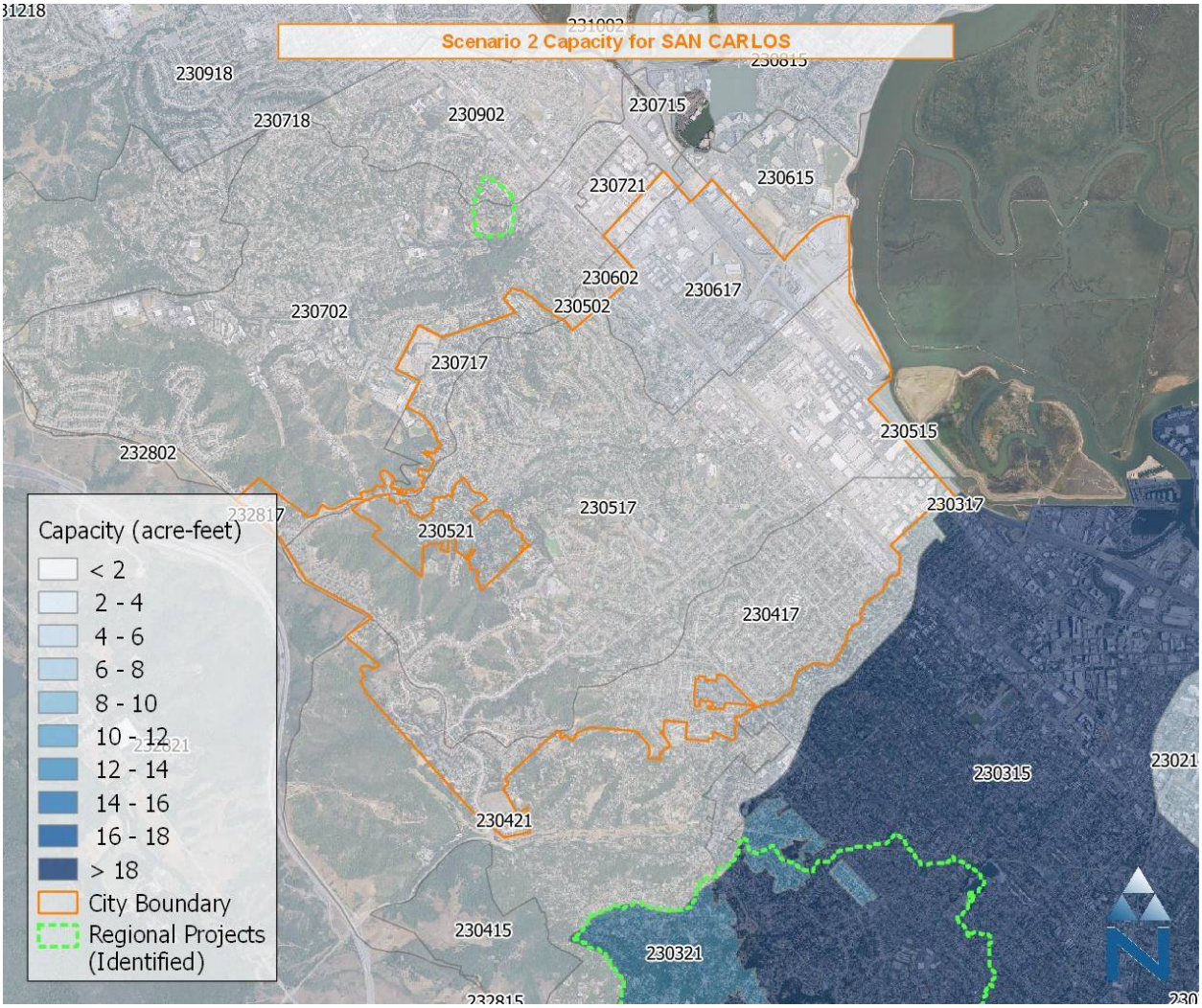


Figure 16. *Scenario 2: San Carlos, sediment goal (countywide).*

The above map (Figure 16) shows the various subwatersheds located within the City, along with the planned structural BMP capacity of each area to be utilized within the City under the countywide approach.

Table 6. *Scenario 2, San Carlos: Sediment Goal (Countywide, With Regional Projects).*

Subwatershed ID	Management Metrics for GI			Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
				Existing/Planned			Green Streets				
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Impervious Area Treated (acres)	Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low	Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
230317	2%	0.04	0.15	--	0.00	--	--	--	--	--	**0.0**
230417	1%	8.13	8.38	0.14	0.66	--	--	--	--	--	**0.8**
230517	2%	14.62	16.25	0.44	1.33	--	--	--	--	--	**1.8**
230617	13%	31.93	45.80	2.01	1.11	--	--	--	--	--	**3.1**
230717	6%	6.32	9.32	0.10	0.11	--	0.03	0.16	--	--	**0.4**
232817	0%	0.00	--	--	--	--	--	--	--	--	**0.0**
Total	**3.6%**	**61.0**	**79.9**	**2.7**	**3.2**	**--**	**0.0**	**0.2**	**--**	**--**	**6.1**

Table 6 is the same as Table 5, except these data were calculated assuming the City will pursue the countywide approach.

3.4.3 Management Metrics

The RAA presents a "recipe" for GI implementation using various management metrics. Progress towards GI milestones will be tracked using one or more of these management metrics.

- **% Load Reduction PCBs (Annual).** This is the load reduction necessary in each subwatershed to achieve the overall targeted load reduction.
- **Annual Volume Managed (acre-ft).** This is the volume of water that is captured, infiltrated, and/or treated within each subwatershed in order to achieve the overall targeted load reduction, given the theoretical combination of projects modeled by the RAA.
- **Impervious Area Treated (acres).** This is the impervious area that needs to be treated in order to achieve the overall targeted load reduction, given the theoretical combination of projects modeled by the RAA.
- **Total Best Management Practices (BMP) Capacity (acre-ft).** Also known as Total Green Infrastructure Capacity, this represents the theoretical capacity of GI projects modeled. Use of this metric as a focus for stormwater improvement goals for the GI Plan is not recommended, due to its sensitivity to the dimensions, locations, and upstream drainage area of the combination of GI projects that are installed.

The system model favored implementation of different combinations of GI projects within each subwatershed, based on (1) the number and type of GI project opportunities identified within each

subwatershed, and (2) cost-effectiveness given various characteristics associated with GI control measure efficiency (typically governed by infiltration rates), higher sediment (or PCBs) generation in upstream areas, etc.

Actual locations, dimensions, and upstream drainage areas of projects constructed will depend upon site-specific constraints, feasibility, and availability of funding. Therefore, the number of projects constructed in various subwatersheds may vary significantly from the RAA results, which may affect their effectiveness. Use of management metrics allows the City to alter its "recipe" for GI implementation without needing to re-run the RAA model. This enables the City to adapt to the changing needs and opportunities in its community. **For more information about the City's adaptive management approach to GI implementation, refer to Section 5.6.**

3.4.4 Green Infrastructure Interim Milestones

The MRP requires reporting of goals for implementation of GI for interim milestones 2020 and 2030, in addition to the final milestone of 2040. Interim milestones for 2020 and 2030 aimed at reaching the 2040 goals were selected in order to assist municipalities with maintaining a sufficient pace throughout the more than 20-year period. In order to estimate the amount of GI to be implemented at these milestones, various assumptions were made in terms of the pace of implementation for various GI project types.

- **Interim Milestone Assumption for Future New & Redevelopment.** A separate analysis from the RAA determined the projected amount of LID associated with new development and redevelopment by 2020, 2030, and 2040. This analysis was completed by Community Design + Architecture, using a C/CAG and MTC demographic dataset. It was found that growth varied significantly between communities and land use types. The data were validated by City staff.[15]
- **Interim Milestone Assumption for Regional Projects.** No regional projects were identified in San Carlos, but in the case of other regional projects in the County, assumptions were made as to when the regional projects modeled would be built and operational. Generally, this was assumed to be by 2030. Regional projects indirectly impact San Carlos because they help to reduce the amount of GI which needs to be installed through other means, such as green streets.
- **Interim Milestone Assumption for Green Streets.** Thirty-three (33) percent of green streets required by 2040 are assumed to be implemented by 2030.

The resulting schedule presented in Figure 17 demonstrates anticipated interim and final milestones for GI implementation in terms of structural capacity. These interim and final GI capacities are subject to adaptive management; however, the 2040 Management Metrics for GI (left side of Table 5, as discussed in Section 3.4.1) set the ultimate goal for GI planning efforts and tracking.

[15] Community Design + Architecture, 2019.

In the Countywide scenario, the model found that the installation of green streets in San Carlos was not as cost-effective as in other areas in the County, such that in a Countywide approach, San Carlos would only need to implement the GI that is anticipated from the combination of existing projects and future new and redevelopment, with a minimal additional contribution from green streets.

The City's goal under the jurisdictional approach would be an 18.4% reduction in PCBs; under the countywide approach, the City's goal would be a 3.6% reduction. The reason the RAA model calls for a 18.9% reduction rather than a 17.6% reduction under the jurisdictional approach is that the model applies potential GI projects in order of efficiency from best to worst, slowly building the sediment reduction until a particular project causes the sediment reduction to move past the 17.6% threshold. The City is free to utilize adaptive management strategies to, for example, construct less efficient but smaller projects to achieve a reduction closer to the 17.6% minimum (or, using the countywide approach, the 3.6% minimum).

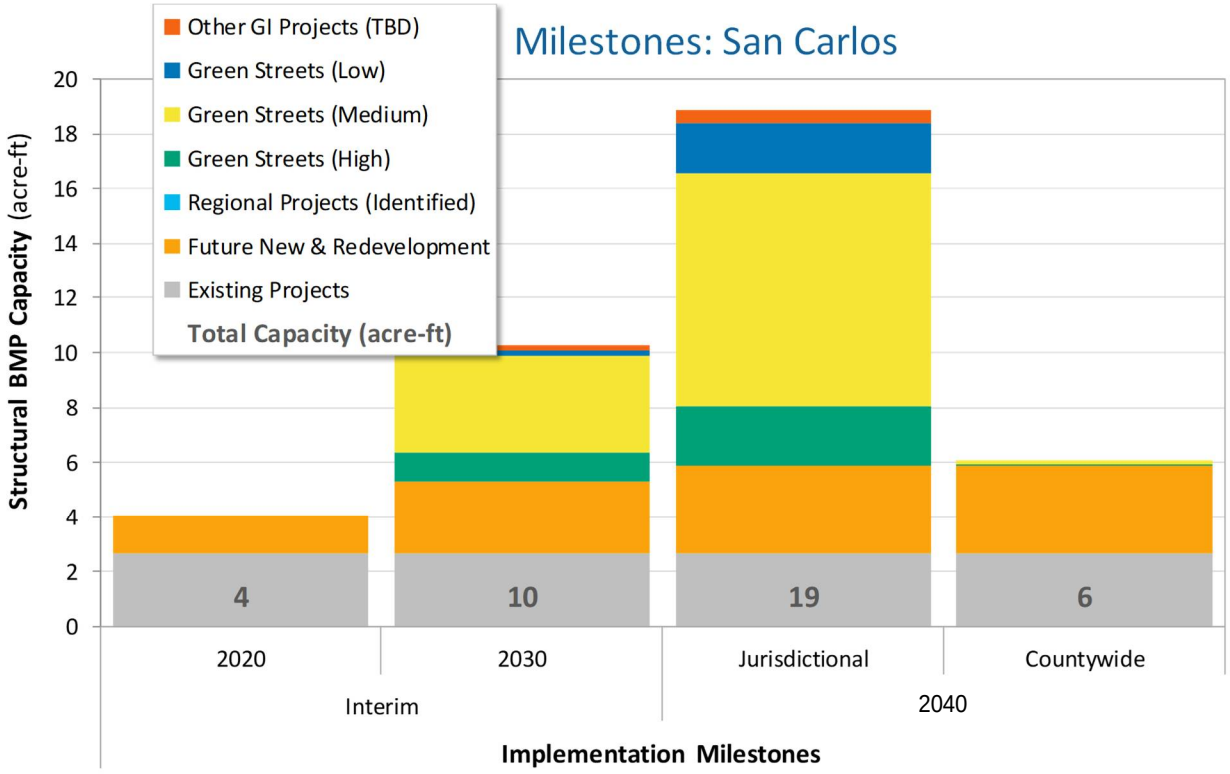


Figure 17. *Summary GI capacity for interim and final implementation milestones.*

Figure 17 displays the City's projected growth in structural BMP capacity via the 2020 and 2030 interim milestones under the jurisdictional approach as well as the 2040 goals under both the jurisdictional and countywide approaches.

Table 7. *Implementation Milestones: San Carlos.*

Implementation Metrics		Implementation Milestones: San Carlos					
		Incremental		Cumulative		Final 2040	
		2020-2030	2030-2040	2020	2030	Jurisdictional	Countywide
Index	% Load Reduction	4.3%	11.6%	2.5%	6.8%	18.4%	3.6%
	Volume Managed (acre-ft/yr)	71.4	193.4	43.6	115.0	308.4	61.0
	Treated Impervious (acres)	18.8	172.6	44.9	63.7	236.3	79.9
Capacities (acre-ft)	Existing Projects	0.0	0.0	2.7	2.7	2.7	2.7
	Future New & Redevelopment	1.2	0.6	1.4	2.6	3.2	3.2
	Regional Projects (Identified)	--	--	--	--	--	--
	Green Streets (High)	--	1.1	--	1.1	2.2	0.0
	Green Streets (Medium)	--	5.0	--	3.5	8.5	0.2
	Green Streets (Low)	--	1.7	--	0.2	1.9	--
	Other GI Projects (TBD)	--	0.3	--	0.2	0.4	--
	Total	**1.2**	**8.6**	**4.1**	**10.3**	**18.8**	**6.1**

Table 7 displays both the incremental and cumulative growth recommended from 2020 through 2040 to reach the 2040 goals for the jurisdictional approach. The totals required for the countywide approach are also provided.

For a visual depiction of the City's existing GI projects and future GI opportunities, please see the maps in Appendix C.

4.0 PROJECT IDENTIFICATION AND PRIORITIZATION

4.1 Introduction

Provision C.3.j states that each Permittee shall develop the following:

> *"A mechanism… to prioritize and map areas for potential and planned projects, both public and private, on a drainage-area-specific basis, for implementation over the following time schedules, which are consistent with the timeframes for assessing load reductions specified in Provisions C.11. and C.12 (i) By 2020; (ii) By 2030; and (iii) By 2040.*
>
> *The mechanism shall include criteria for prioritization… and outputs (e.g., maps, project lists) that can be incorporated into the Permittee's long-term planning and capital improvement processes."*

This chapter summarizes the City's project identification and prioritization process, which consists of the following elements:

1. **Identification and Prioritization of Project Opportunities through the San Mateo County Stormwater Resources Plan (SRP).** In addition to identification of projects in the Capital Improvement Program (CIP), the City has integrated the prioritization results of the San Mateo County Stormwater Resource Plan (SRP), which was developed by SMCWPPP with participation from the GI TAC and member agencies. The SRP establishes a region-level, watershed-based planning and implementation guide for stormwater and dry weather runoff capture and reuse projects on publicly-owned land and rights-of-way. The SRP produced a list of prioritized project locations eligible for future State implementation grant funds.
2. **Identification and Prioritization of Project Opportunities through the Capital Improvement Program (CIP).** Starting in 2016 with the adoption of the new MRP, the City prepared a list of projects that have the potential to incorporate GI. This list is updated each year to reflect the project status, additional findings, and new additions to the CIP. The focus of this list is on public projects listed in the CIP rather than private projects, because private projects are typically tracked separately as Regulated project opportunities. This chapter formalizes the process developed to promote early implementation of GI projects for the identification and prioritization of project opportunities.
3. **Identification and Prioritization of Project Opportunities on Private Property.** Identification and prioritization of opportunities on private property is not the focus of this chapter, but the City does intend to collaborate where possible with other agencies and private landowners. At the end of this chapter the City has identified possible partners with whom the City can collaborate to achieve the water quality goals outside the City rights-of-way.

4. **Future Identification and Prioritization of Project Opportunities through the San Mateo County Sustainable Streets Master Plan.** Further prioritization of the City's streets, sidewalks, City-owned properties, and other land resources will be conducted in the future through the San Mateo County Sustainable Streets Master Plan in 2021.

The City is intentionally spring boarding off existing processes in order to (1) maintain consistency with the SRP and BASMAA GI screening process, (2) take advantage of training conducted to familiarize staff with the SRP and screening process, and (3) make the identification and prioritization process simple, so as to spend more time focusing on how to implement GI in projects that have GI potential.

4.2 Identifying Existing Projects and Future Opportunities

4.2.1 Participation in Developing San Mateo Countywide Stormwater Resource Plan

SMCWPPP developed an SRP, which, in addition to characterizing San Mateo County water resources, established both a quantitative prioritization protocol for GI opportunities and an initial list of prioritized local and regional GI projects. It also served the purpose of allowing municipalities access to funding for stormwater and dry weather runoff capture projects. Senate Bill 985, which went into effect on January 1, 2015 requires the development of an SRP as a condition of receiving voter-approved bond funds for stormwater and dry weather runoff capture projects. The final draft of the San Mateo County SRP was approved under Resolution 17-04 by the C/CAG Board of Directors on February 9, 2017.

The SRP is intended to be a living document and will be periodically revised (once every five years) to update the project implementation plan and reflect lessons learned through wide-scale integration of LID, green streets, and regional stormwater capture projects.

The City contributed proposed projects to the SRP both during the development of the SRP and may consider opportunities to pursue grant funding for those projects identified as part of the GI Plan Implementation Process.

4.2.2 Identification and Screening of Project Opportunities through the Capital Improvement Program

The City's primary means of identifying and screening project opportunities is through the Capital Improvement Program (CIP). Projects that are listed in the CIP are likely to move forward because they address specific City needs and provide benefits that synchronize with City goals, policies, and priorities. Projects typically are added to the CIP based on needs assessments performed in association with the development of master plans, such as the Parks Master Plan and Storm Drain Master Plan. With the development of this GI Plan, the City is both formalizing and documenting its procedure for screening

Capital Improvements Projects for GI potential as well as reinforcing the link between GI and the City's various local planning documents and master plans.

As required by the MRP, the City will continue to prepare and maintain a list of public and private GI projects that are planned for implementation during the permit term as well as public projects that have potential for GI measures. These lists will be used to provide potential projects for inclusion in the SRP development and incorporation into the GI Plan. The City also plans to annually update the map of the City's existing and potential GI projects in Appendix C to reflect current progress towards the GI plan implementation as well as future project opportunities.

The City screens its CIP using an adjusted version of the BASMAA Screening Process (BASMAA 2016). This process consists of three parts:

- **Part 1 – Initial Screening.** Projects move on to the Part 2 Screening process unless they are one of the following categories: No Potential, Too Late to Change, Too Early to Assess, or Maintenance / Minor Construction. Projects without GI potential are removed from the City's tracking list.
- **Part 2 – Assessment of GI Potential.** Projects are assessed for their ease of integration of GI according to project types. C.3-Regulated project status is assessed. Projects without GI potential are removed from the City's tracking list, and the reasons for infeasibility of incorporating GI are documented.
- **Part 3 – Preliminary Design.** Information is collected, preliminary GI sizing takes place, barriers and conflicts are assessed, budget and schedule considerations are noted, and the results of the GI assessment are documented. Projects without GI potential are removed from the City's tracking list, and the reasons for infeasibility of incorporating GI are documented.

This screening process is provided in Appendix B.

Figure 18 summarizes the key factors that are taken into consideration when integrating GI into the CIP.

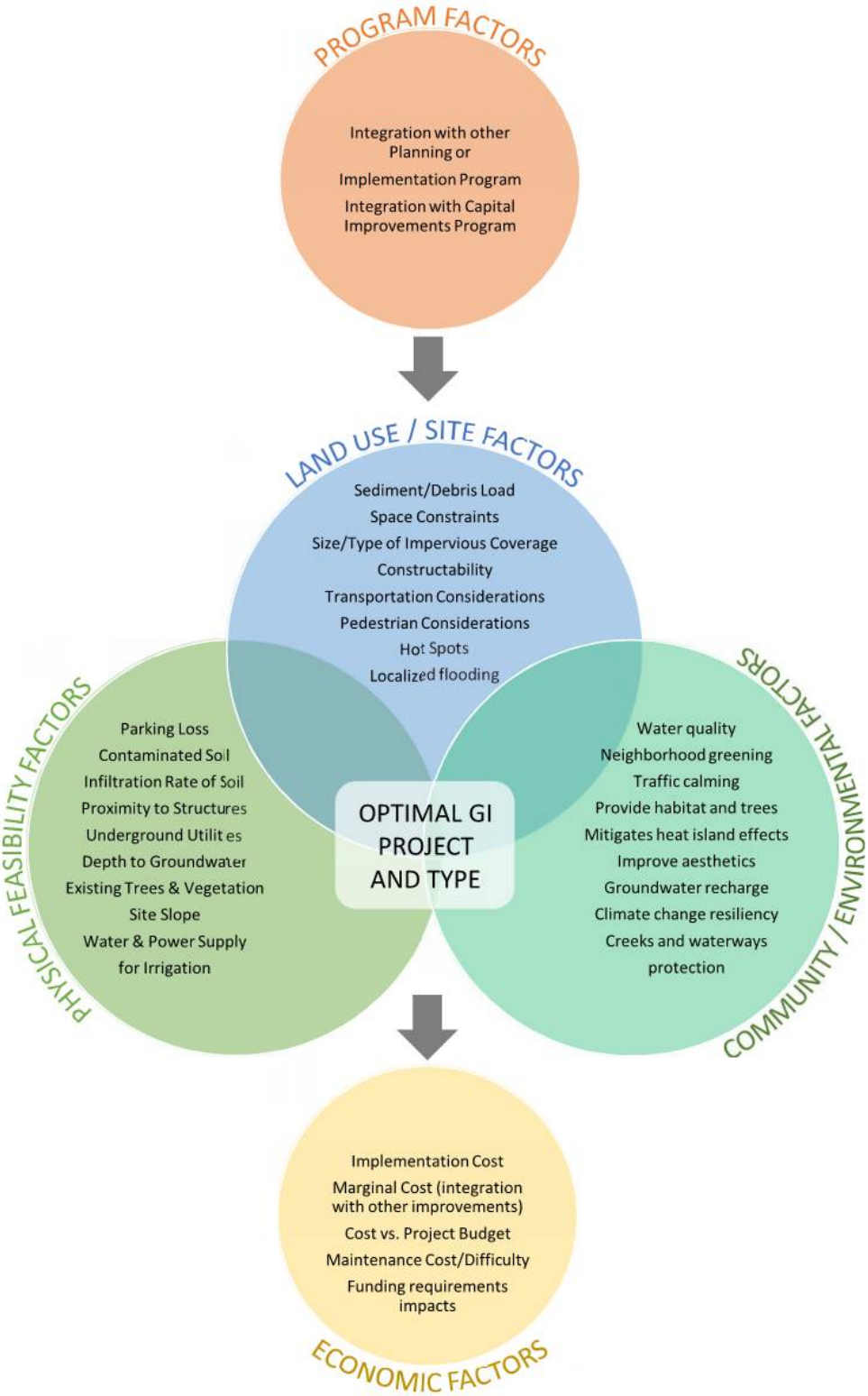


Figure 18. *Factors Impacting Selection of Optimal GI Projects*[16]

[16] *Green Infrastructure Implementation.* (2014). Adapted from Figure 10.1, Decision process for selection of GI Types. Water Environment Federation.

4.2.3 Identification of Opportunities on Private Property

The GI Plan focuses on public rights-of-way as well as identification and screening of projects that are within the jurisdiction and control of the City. However, GI can be implemented on private properties which are under development through the project entitlement process. **For more detail about how the City enforces GI on private properties, refer to Section 10.2, "Private Development Program and Policies".**

4.3 Determining GI Priorities

4.3.1 Countywide GI Project Screening

The SRP includes an evaluation of project benefits addressing several key metrics: Water Quality, Water Supply, Flood Management, Environmental, and Community benefits. Based on these metrics, watershed characteristics and processes (including land use, impervious cover, hydrologic soil group, percent slope, rainfall, and pollutant wasteload), the SRP identified and prioritized projects to address water quality impairment, reduce flooding, and provide more natural groundwater recharge.[17]

Three basic categories of project opportunities were screened **(for more information about these project opportunities, refer to Section 3.3.2, Modeled GI Opportunities)**:

- **Future New and Redevelopment (Low Impact Development)**
- **Regional Projects**
- **Green Streets**

Table 8 summarizes the screening methodology for parcels and rights-of-way.

Table 8. *SRP Parcel and Right-of-Way Project Screening Methodology.*

Screening Factor	Characteristic	Criteria	Reason
PARCEL			
Public Parcels	Ownership	City, County, or Town	Identify all public parcels for regional storm and dry weather runoff capture projects or onsite LID retrofits
	Land Use	Park, School, Other (e.g., Golf Course)	
Suitability	Parcel Size	>0.25 acres	Adequate space for regional stormwater and dry weather runoff capture project
		<0.25 acres	Opportunity for onsite green infrastructure retrofit
	Average Parcel Slope	<10%	Steeper grades present additional design challenges
RIGHT-OF-WAY			
Selection	Functional Class	S1200 S1400 S1730 S1780	City street, arterial Local neighborhood road, rural road Alley Parking lot roads

[17] *Stormwater Resource Plan for San Mateo County*. (2017, February). San Mateo Countywide Water Pollution Prevention Program. City/County Association of Governments of San Mateo County. Prepared by Paradigm Environmental and Larry Walker Associates, Inc.

Suitability	Ownership	Public	Potential projects are focused on public and right-of-way opportunities
	Road Slope	<5%	Steep grades present additional design challenges; reduce capture opportunity due to increased runoff velocity

4.3.2 Countywide GI Project Prioritization

After the identification of feasible project locations, screened parcels and rights-of-way were prioritized to aid in the selection of potential project locations that would be most effective and provide the greatest number of benefits. This was a two-step ranking process:

1. First, all potential project locations were ranked on the basis of which sites offer the greatest opportunity for stormwater capture and other multiple benefits. Opportunities to combine stormwater capture projects with the CIP can be considered now, and in the future.
2. The highest-ranked opportunities were further analyzed to provide a detailed quantification of project benefits and develop preliminary conceptual designs and project costs. Though this analysis was focused on a select number of opportunities, the concepts developed can be used on a large number of similar project opportunities.

Specifically, projects were prioritized through the lens of the following categories, using a quantitative scoring system:

- **Physical Characteristics.** Physical conditions include land use (for parcels) or street type (for green streets), impervious area, parcel size, hydrologic soil group, and/or slope. Prioritization based on these factors varied slightly depending on whether the project was a regional project, green street, or LID retrofit. In general, the highest prioritization was given to sites that consisted of high imperviousness, have the potential to infiltrate, and have mild slopes.
- **Flood-Prone Streams.** Projects placed within the subwatersheds of flood-prone streams and areas affected by flooding can help to mitigate flood risks and reduce flood and hydromodification impacts by limiting the volume of runoff that reaches the impacted streams. Therefore, high priority was given to sites closest to the flood-prone streams.
- **PCB Interest Areas.** PCBs are one of the primary pollutants of concern within the Bay Area; therefore, siting stormwater capture projects in PCB interest areas can potentially address water quality issues.
- **Co-Located Planned Projects.** Consideration of other potential or planned City projects opens opportunities for cost-sharing and maximizes multiple benefits achieved by a single project. Higher priority scores were given to project opportunities that may be implemented in parallel with new development and redevelopment projects or other municipal CIP projects.

- **Drains to TMDL Waters.** Projects that are located in watersheds that drain to Bay TMDL waters were given higher scores. Stormwater capture in these areas will aid in the removal of pollutants from runoff downstream.
- **Multiple Benefits.** While the reduction of pollutant loads is one of the primary objectives of green stormwater infrastructure, several other benefits can be achieved to improve cost effectiveness and increase buy-in. Potential benefits of GI are listed in Section 1.1.4.

Through City staff's and SMCWPPP's input, the prioritization criteria were weighted to arrive at the final project prioritization methodology. The process resulted in assigned prioritization scores for each identified GI opportunity within each of the three project categories (green streets, LID retrofits, and regional projects). These scores could later be further filtered or sorted to support ongoing prioritization of projects within the City of San Carlos. The criteria and weighting are summarized for each project type in Table 9.

Table 9. *SRP Parcel and Right-of-Way Project Prioritization Methodology.*

Metric	Points						Weight Factor
	0	1	2	3	4	5	
REGIONAL PROJECTS							
Parcel Land Use			Schools/Golf Courses	Public Buildings	Parking Lot	Park / Open Space	
Parcel Size (acres)	0.25 ≤ X < 0.5	0.5 ≤ X < 1	1 ≤ X < 2	2 ≤ X < 3	3 ≤ X < 4	4 ≤ X	
Slope (%)	5 < X ≤ 10	4 < X ≤ 5	3 < X ≤ 4	2 < X ≤ 3	1 < X ≤ 2	0 < X ≤ 1	
LID RETROFIT PROJECTS							
Parcel Land Use			Schools/Golf Courses	Park / Open Space	Parking Lot	Public Buildings	
Slope (%)	5 < X ≤ 10	4 < X ≤ 5	3 < X ≤ 4	2 < X ≤ 3	1 < X ≤ 2	0 < X ≤ 1	
GREEN STREET PROJECTS							
Parcel Land Use	Highway		Arterial	Collector	Alley	Local	
"Safe Routes to School" program	No					Yes	2
Slope (%)		4 < X ≤ 5	3 < X ≤ 4	2 < X ≤ 3	1 < X ≤ 2	0 < X ≤ 1	
ALL PROJECTS							
Impervious Area (%)	X < 40	40 ≤ X < 50	50 ≤ X < 60	60 ≤ X < 70	70 ≤ X < 80	80 ≤ X < 100	
Hydrologic Soil Group		D	Unknown	C	B	A	
Proximity to Flood-prone Channels (miles)	Not in sub-basin	3 < X		1 < X ≤ 3		X ≤ 1	2
Contains PCB Risk Areas	None			Moderate		High	2
Currently planned by City or co-located with other City project	No					Yes	2
Drains to TMDL water	No					Yes	
Above groundwater basin	No		Yes				
Augments Water Supply	No	Yes					
Water Quality Source Control	No	Yes					
Reestablishes Natural Hydrology	No	Yes					
Creates or Enhances Habitat	No	Yes					
Community Enhancement	No	Yes					

The results of the SRP project prioritization are provided in a webviewer created by C/CAG: http://54.183.214.51/maps/SMC_project_prioritization. Prioritization maps for the City of San Carlos are provided in Appendix C.

4.4 Potential Collaborations with Outside Agencies

The City may seek collaboration opportunities with outside agencies which fall within the City's limits but are in non-jurisdictional areas (areas not subject to the MRP under the City's MS4 permit). These include the following:

Public School Districts

There is one public school district within the City of San Carlos and nine public schools (as of Fall 2019), as listed in Table 10.

Table 10. *Public Schools in San Carlos.*

Public School Districts	Public Schools
San Carlos School District	**Lower Elementary Schools (PK-3)** Arundel School Brittan Acres School Heather School White Oaks School **Upper Elementary Schools (4-5)** Arroyo School Mariposa School[18] **Middle Schools (6-8)** Central Middle School Tierra Linda Middle School[19] **Charter School (K-8)** San Carlos Charter Learning Center

The City does not have jurisdiction or planning and building authority over public school properties. As of early 2019, stormwater discharges from K-12 School Districts and Community College Districts are regulated through the Phase II Small Municipal Separate Storm Sewer System (MS4) Program[20] (Phase II Permit). State Universities were already covered under the Phase II Permit. The Phase II permit does not require the development of a GI Plan but does require the incorporation of GI measures through the Post Construction Storm Water Management Program (Provision E.12 of the Phase II Permit). Prior to 2019, school districts were not required to construct stormwater treatment measures, except in some municipalities (for example, as a required mitigation measure under a Coastal Development Permit).

Other Possible Agency Partners

- San Mateo County
- Caltrans
- SamTrans – Bus Routes 61, 260, 295, 397, 398, and ECR

[18] Opening Fall 2019.

[19] Transitioning from grades 5-8 to grades 6-8 in Fall 2019.

[20] As of the writing of this section, the amended Small MS4 General Permit was adopted by the California State Water Resources Control Board (CSWRCB) on December 19th, 2018, but is not yet certified by the CSWRCB clerk.

5.0 PROJECT TRACKING

5.1 Introduction

Provision C.3.j states that each Permittee shall develop the following:

> *"A process for tracking and mapping completed projects, public and private, and making the information publicly available."*

Tracking and mapping both existing and potential GI projects facilitates GI implementation in several ways:

1. Keeps the community engaged by providing an ongoing list of existing and potential GI projects.
2. Ensures that existing GI projects remain on the City's radar and facilitates management of and associated inspections for a GI Operations and Maintenance Program.
3. Keeps the focus on potential GI projects in the City to encourage a continued effort to transition the City from "gray" to "green" and ensure these projects continue to make progress.
4. Allows the City to ascertain the treatment area for potential GI projects and continue to refine this area as projects develop.
5. Enables tracking of projects in different areas of the City which may have different land uses and priorities.
6. Helps measures progress towards water quality objectives.

5.2 City Internal Project Tracking System

As part of the development of the GI Plan, the City mapped all existing and potential areas treated by GI in a Geographic Information System (GIS), which is a graphical framework for gathering, analyzing, managing, and representing data. In addition, projects are tracked on an internal Excel spreadsheet, which includes additional data, such as the type of treatment measures installed. The Excel spreadsheet is updated on a continuous basis and is also used to manage the City's GI Operations and Maintenance program.

The City will aim to update the GIS exhibit which maps existing and potential areas treated by GI (**refer to the last exhibit of Appendix C**) on an annual basis and prior to preparation of the Annual Report to reflect the following:

1. Projects which moved from "potential" to "existing" (i.e., were constructed).
2. Development projects that come in for planning review (either entitled, or in pre-application status if the project is likely to move forward).
3. CIP Projects which are newly-identified as having GI potential.

This tool is intended to be used until the Countywide Project Tracking System becomes available. At that time (estimated 2021), the City will reassess the need for an additional internal project tracking tool. So as not to duplicate efforts, the City may opt to retire the internal project tracking system and use the Countywide tool instead. Or, the City may determine that in addition to the Countywide tool, the City has a need for a more robust internal tracking tool which has more functionality, and will transition the Excel spreadsheet and GIS layer into a stormwater compliance database, which would allow City staff to complete inspection reports electronically, sync the inspection data more quickly to the project list, and facilitate the exporting of data. Transition to a database would require significant upfront expense but could save costs down the line if the City has enough existing GI projects.

5.3 City Public-Facing Project Tracking System

As part of the development of the GI Plan, the City created a webpage highlighting several existing GI projects, as shown in Figure 19. This webpage can be accessed from the City website at https://www.cityofsancarlos.org/government/departments/green-infrastructure. This allows the public to see locations, descriptions, and photos of existing GI throughout the City.

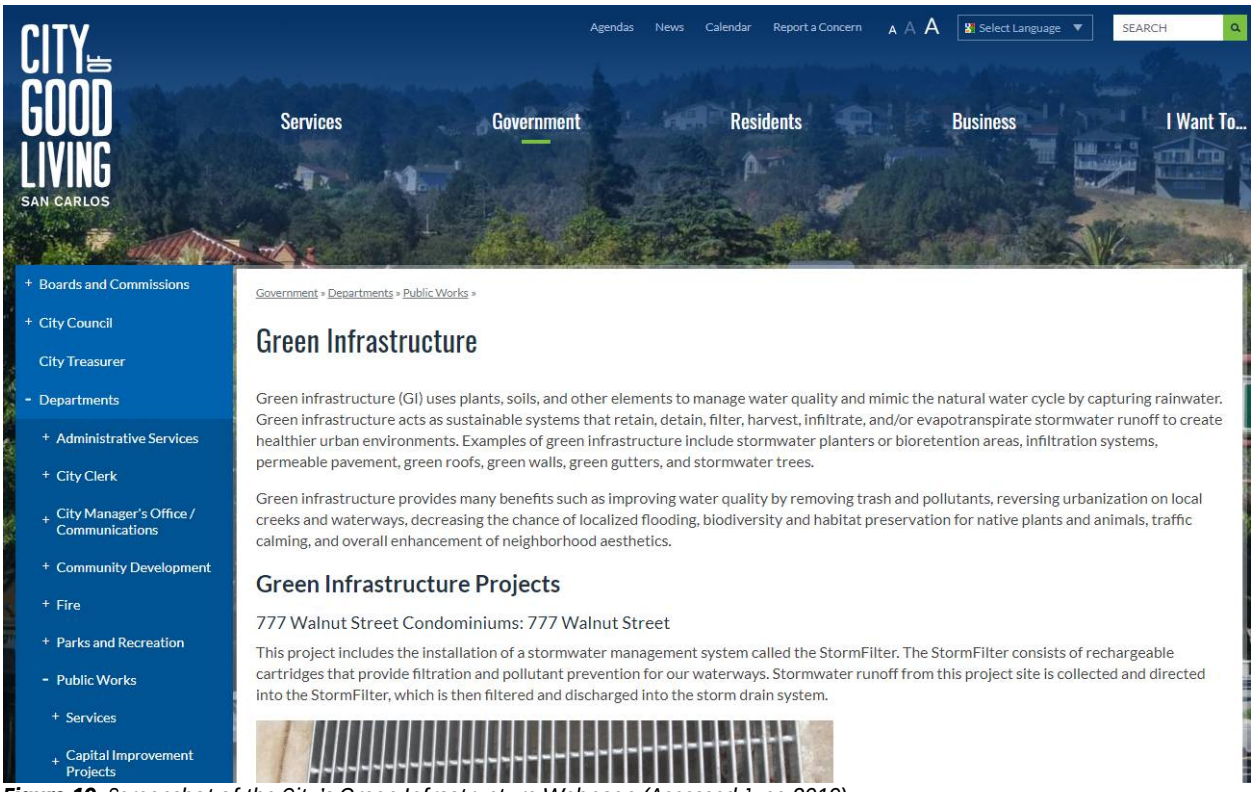


Figure 19. *Screenshot of the City's Green Infrastructure Webpage (Accessed June 2019).*

5.4 O&M Tracking Systems and Procedures

Proper maintenance is essential to maximizing the environmental, social, and economic benefits of GI, as well as ensuring that projects perform as expected. Written plans and procedures ensure proper long-term maintenance and are critical components to the success of any GI measures.

The City's goal is to ensure that public, private, Regulated, and Non-Regulated GI measures are maintained sufficiently to perform as designed by implementing the City's Enforcement Response Plan (ERP), Standard Operating Procedures (SOPs), and drawing from SMCWPPP resources, such as Chapter 6, Guidelines and Specifications.

5.4.1 O&M Tracking of Provision C.3.h ("Regulated") Sites

The MRP requires, under Provision C.3.h, that GI installed as part of Regulated projects as well as permeable pavement installations in excess of 3000 square feet be inspected upon project completion and at least once every five years. Inspection and enforcement procedures are described in the City's Stormwater NPDES Enforcement Response Plan (ERP), which is available for download on the City website at the following link: https://www.cityofsancarlos.org/government/departments/public-works/services/view-documents/-folder-47.

The City maintains an electronic database of sites identified in Provision C.3.h, which includes project data, the contact information of the site representative, the site O&M agreement and O&M plan, past inspection records, and records of any enforcement actions.

5.4.2 O&M Tracking of Non-Regulated Sites

The City will continue to design, construct, and maintain GI on public properties and rights-of-way. Non-Regulated Project installations of GI will be tracked as feasible in the same manner as Regulated projects, except that small measures, such as those installed on single-family homes, will not necessarily be tracked.

5.5 Countywide Project Tracking Tool

The City/County Association of Governments of San Mateo County (C/CAG) received a Caltrans Adaptation Planning Grant, which is being used to partially fund the SSMP The SSMP and associated deliverables will support C/CAG's member agencies in advancing sustainable stormwater management and creating more resilient transportation networks in San Mateo County in the face of a changing climate.[21]

The SSMP will include the following elements:

- **Community Engagement.** Input will be solicited from local agency staff, community stakeholders, and the public to provide a participatory forum for sharing progress and soliciting input on the Master Plan.
- **Climate Adaptation Risk Analysis on Local Transportation Network.** Climate change-related precipitation impacts and stormwater capture benefits will be quantified.

[21] Request for Proposals for Technical Support to the City/County Association of Governments of San Mateo County to Develop the San Mateo Countywide Sustainable Streets Master Plan. (2018, August 30).

- **High Resolution Data Analysis and Fine-Scale Drainage Delineation.** Data will be collected from member agencies, and then a high-resolution drainage system delineation will be prepared. Sustainable streets opportunities within the right of way will be identified at a street-level scale.
- **Prioritization of Sustainable Streets Opportunities.** The SSMP will build on the existing green street prioritization C/CAG developed as part of the SRP by integrating priorities associated with protecting the multi-modal transportation network, pavement maintenance, and bicycle/pedestrian planning. The prioritization will also be subject to a rigorous stakeholder involvement process.
- **Project Concepts.** Up to 10 priority pilot projects will be identified and detailed which demonstrate the integration of bicycle and pedestrian improvements with sustainable streets practices.
- **Web-based Sustainable Streets Project Implementation Mapping and Tracking Tool.** An online tracking tool will be developed which can be used by member agencies to track GI implementation. It will include dashboards to show the public and interested stakeholders progress over time toward building adaptation to precipitation-based climate change impacts as well as water quality improvement. This tool will be publicly available and will allow users to see locations of implemented projects, project benefits, and progress toward long-term goals.

Bioretention area located at Crestview Park.

5.6 Adaptive Management

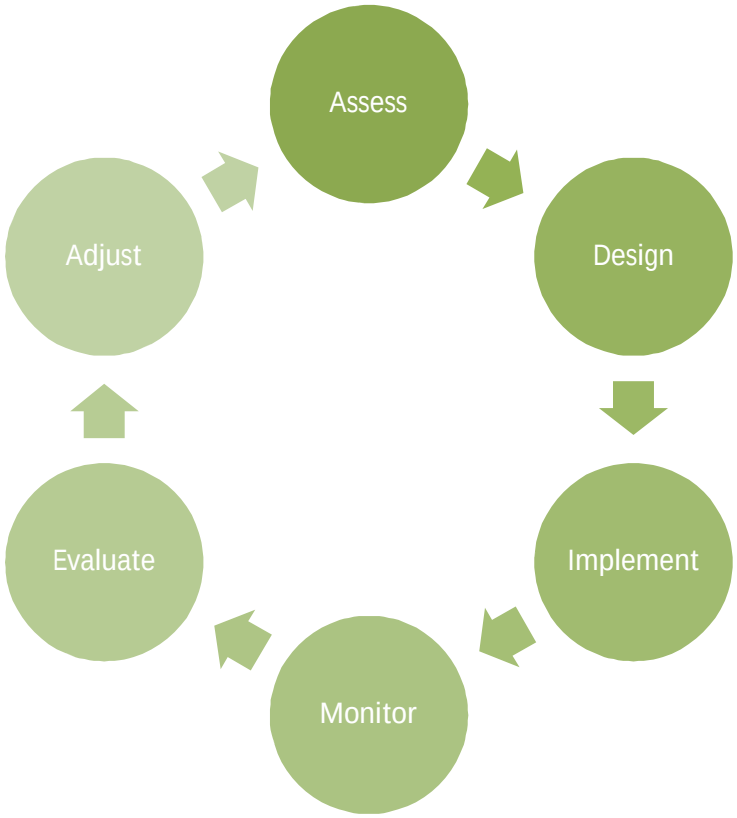
This GI Plan is intended to act as a living document, allowing it to shift and adapt to the changing needs of the City. Throughout the adaptive management process, the City will continue to verify feasible opportunities for GI projects to meet the final load reduction goals for 2040. The process will include the tracking of management metrics as discussed in Chapter 3, and continued re-evaluation of GI project opportunities.

Aspects of the GI program will be outside of the City's control—namely, that the development climate is uncertain, and projects that are anticipated to be constructed through future new and redevelopment may not actually come to fruition. Forecasts for development may be higher or lower than what is achieved by the 2040 milestone. If less development occurs over time, more green streets or regional projects on public land may be needed to provide equivalent volume management. Similarly, there are uncertainties in the implementation of GI on the public side—opportunities and funding for GI are likely to change between now and 2040.

There is also a possibility that the screening and prioritization procedure used to develop the SRP is not as restrictive as it needs to be, meaning that there may be many streets identified as having GI potential where GI is not actually feasible. This would require additional GI measures to be installed in fewer areas. Alternatively, there may be opportunities not identified through the SRP, but through the CIP, which could result in GI implementation.

By taking an adaptive management approach to GI, the City can establish a process that is driven by the goals set forth in the RAA, but that is also flexible, iterative, and allows for continuous improvement. GI is goal-driven, and its effectiveness will be measured at a watershed scale. Rigid standards can limit creativity and be blind to the site-specific context and constraints. See Figure 20 below.

Figure 20. *Adaptive Management Process.*[22]



[22] *Green Infrastructure Implementation.* (2014). Water Environment Federation. Page 220.

6.0 GUIDELINES AND SPECIFICATIONS

6.1 Introduction

The MRP states that the GI Plan shall contain the following elements:

> *Provision C.3.j.i.(2)(e): "General guidelines for overall streetscape, and project design and construction so that projects have a unified, complete design that implements the range of functions associated with the projects…. The guidelines should call for the Permittee to coordinate, for example, street improvement projects so that related improvements are constructed simultaneously to minimize conflicts that may impact green infrastructure."*
>
> *Provision C.3.j.i.(2)(f): "Standard specifications and, as appropriate, typical design details and related information necessary for the Permittee to incorporate green infrastructure into projects in its jurisdiction."*
>
> *Provision C.3.j.i.(2)(g): "Requirement(s) that the projects be designed to meet the treatment and hydromodification management sizing requirements in Provisions C.3.c. and C.3.d. For street projects not subject to Provision C.3.b.ii (i.e., non-Regulated Projects) Permittees may collectively propose a single approach with their Green Infrastructure Plans for how to proceed should project constraints preclude fully meeting the C.3.d. sizing requirements. The single approach can include different options to address specific issues or scenarios. That is, the approach shall identify different constraints that would preclude meeting the sizing requirements and the design approach(es) to take in that situation. The approach should also consider whether a broad effort to incorporate hydromodification controls into green infrastructure, even where not otherwise required, could significantly improve creek health and whether such implementation may be appropriate, plus all other information as appropriate (e.g., how to account for load reduction for the PCBs or mercury TMDLs)."*

The City has met these requirements through (1) development through the GI TAC and adoption of Countywide GI Guidelines and Standards, which include typical design details and sample specifications; (2) clarification of sizing of Non-Regulated GI projects; and (3) development through the GI TAC and adoption of BASMAA alternative sizing criteria for Non-Regulated green street projects.

6.2 Countywide GI Guidelines and Standards

6.2.1 San Mateo County GreenSuite

The City participated in the GI Technical Advisory Committee (GI TAC)'s development of the "GreenSuite". The GreenSuite is a combination of an updated version of the SMCWPPP C.3 Stormwater Technical Guidance Manual *(C.3 Regulated Projects Guide)* and the newly developed GI Design Guide (*Design Guide*). The key content and organization of these guides is summarized in Figure 21.

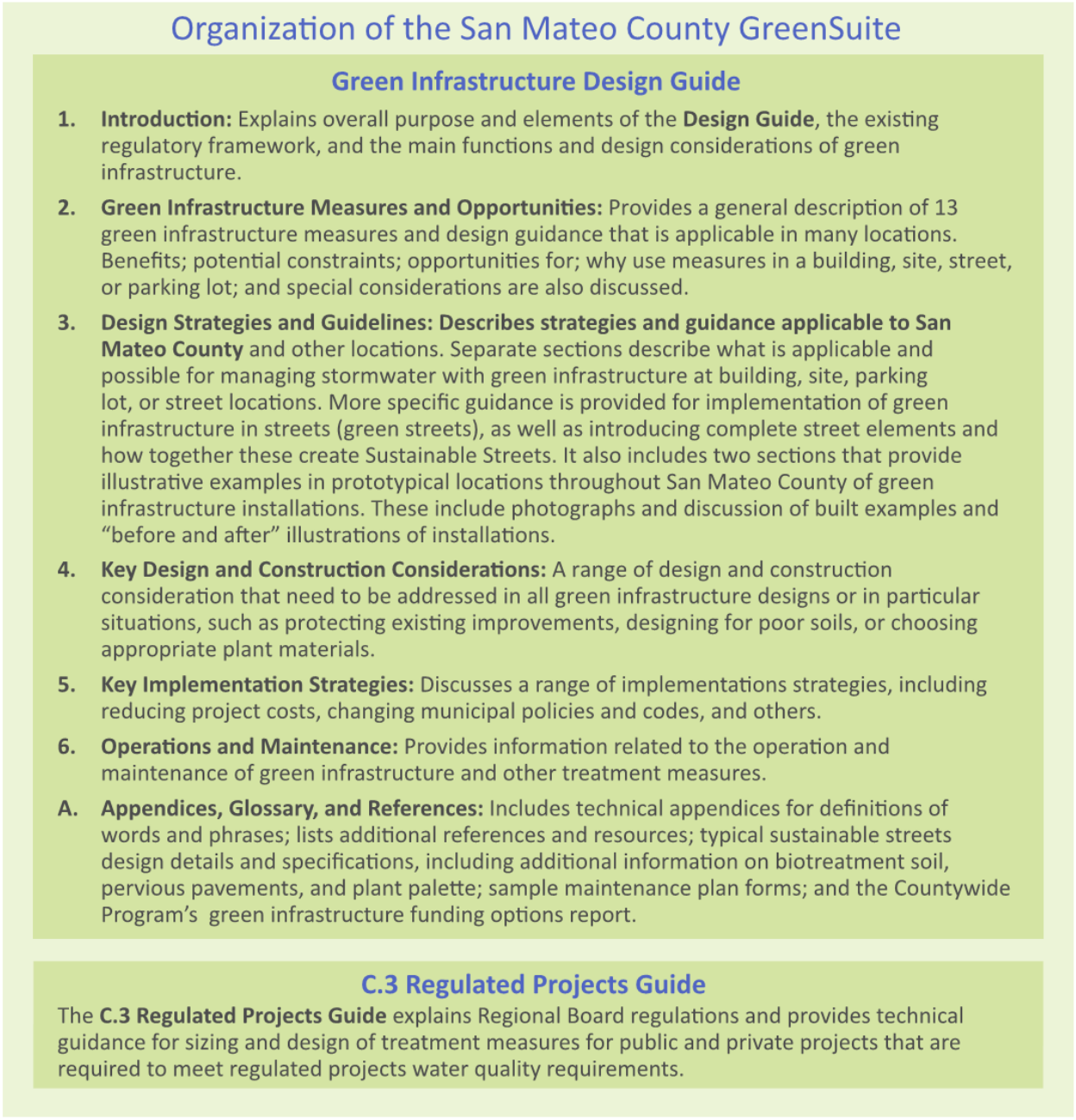


Figure 21. *Key Content and Organization of the San Mateo County GreenSuite.*[23]

Together, these documents allow designers, City staff, and developers to implement a range of GI measures and strategies. They also include model procedures for coordinated and consistent plan review of private projects, scoping and design for public projects, as well as recommendations for ongoing operations and maintenance.

[23] *San Mateo County Green Infrastructure Design Guide.* SMCWPPP 2019b. https://www.flowstobay.org/gidesignguide.

In order to design GI facilities, designers would likely use a combination of both the *C.3 Regulated Projects Guide* and the *Design Guide.* Regulated projects must adhere to the specific requirements of the MRP, but Non-Regulated projects may also benefit from the sizing guidance provided in the *C.3 Regulated Projects Guide*. Designers will find more GI options in the *Design Guide* for Non-Regulated projects, because the *C.3 Regulated Projects Guide* does not cover certain measures like green gutters, green walls, stormwater trees, and vegetated swales. If a designer finds that landscape-based measures are not feasible on a project, they might consider mechanical treatment devices, such as media filters or high-flow rate tree wells, which are described in the *C.3 Regulated Projects Guide.* Having both guides allows for flexibility in GI design and implementation on Non-Regulated projects without repeating information already provided for Regulated projects, while keeping the requirements for Regulated projects clear and separate.

6.2.2 Green Infrastructure Design Guide

SMCWPPP, with input and feedback from its member agencies, including the City of San Carlos, has developed a countywide Green Infrastructure Design Guide (*Design Guide*) and its appendices to provide comprehensive guidance on the planning, design, construction, and operations and maintenance of GI for buildings, parking lots, sites, and streets. The *Design Guide* addresses the requirements of the MRP, fulfilling Section C.3.j.i.(2)(e) requiring design and construction guidelines for streets and projects and C.3.j.i.(2)(f) for developing typical design details and specifications for different street and project types. The *Design Guide* also addresses the part of C.3.j.i.(2)(g) related to a regional approach for alternative hydraulic sizing for Non-Regulated constrained street projects.

The *Design Guide* includes a range of information related to GI, such as provision of policies and definitions; identification of different types of treatment and site design measures; summation of various benefits including a range of community benefits provided beyond stormwater management; presentation of before and after images of integrating GI into projects; introduction of complete streets concepts and design; discussion regarding BASMAA's regional approach for alternative sizing for Non-Regulated constrained green street projects; design and implementation considerations; operations and maintenance; and provision of typical construction details and specifications. The *Design Guide* explains how these concepts, considerations, and guidance can be used to effectively integrate GI into communities in new and redevelopment projects whether they are C.3 Regulated or not.

General guidelines for overall streetscape and project design, construction, and maintenance have been developed so that projects have a unified, complete design and implement the range of functions associated with the projects. The MRP emphasizes the need for guidance related to green streets functions. The *Design Guide* includes implementation guidance specifically for stormwater management and treatment within streets. The guidance supports safe and effective multimodal travel with a focus on the comfort of people walking and cycling; shared use as public space and an attractive and functional public realm; use of appropriate measures for different street and land use contexts and types; and the achievement of urban forestry goals and benefits. The Design Guide defines practices to give considerations to no missed opportunities and the efficient and effective coordination, review, and

implementation of GI in public and private projects.

The Appendices of the *Design Guide* include typical design details and specifications for the design and construction of GI applicable to a variety of applications whether street or site-based projects. These details, as well as those provided in the *C.3 Regulated Projects Guide*, can be adapted for use on local GI projects.

6.2.3 Adoption of Countywide Green Infrastructure Guidelines

The City of San Carlos will use the *Design Guide*, *C.3 Regulated Projects Guide,* and future amended versions to provide support and guidance in implementing GI within the City. As more GI projects are implemented in San Carlos, portions of the Design Guide may be superseded by San Carlos-specific updates or modifications based upon lessons learned and other factors experienced in or determined by the City.

The *Design Guide* can be found at SMCWPPP's website at https://www.flowstobay.org/gidesignguide.

C.3 Regulated Projects Guide (formerly known as the *C.3 Technical Guidance)* can be found on the SMCWPPP "Flows to Bay" website at https://www.flowstobay.org/newdevelopment.

The use of Countywide GI details and specifications allows the City to be consistent in its implementation of GI with other Permittees in San Mateo County and avoid potential conflicts. These guidelines are sufficient to address the different street and project types within the City's jurisdiction, because they present a suite of GI options that could be used on a variety of both public and private projects.

For those projects which are identified as having GI potential, a feasibility review will be undertaken to determine what GI options are best suited to that project, given its goals, funding source, budget, and constraints. As the project is further developed into concepts and then improvement plans by both City staff and qualified consultants, the plans, specifications, details, and project constraints will be reviewed by City engineering staff with respect to compliance with both the Countywide GreenSuite and City standards. Conflicts, if they arise, will be resolved with site-specific detailing.

6.3 Local Green Infrastructure Guidelines in San Carlos

In addition to the guidance available in the Countywide GreenSuite, the City has provided some additional local guidance to address local context and existing policies in this section. No changes are proposed to the Countywide GreenSuite; rather, this section is intended to be a local supplement to the Countywide GreenSuite. The City may make future updates or modifications to this section if necessary; if any local updates conflict with the Countywide GreenSuite, it will be stated in this section.

On Regulated Projects, the City of San Carlos prefers that developers install GI systems in either the front yard or common areas. Section 6.1, "Bioretention Areas", of the *C.3 Regulated Projects Guide* states that "bioretention units should not be located on inaccessible private property such as residential backyards". It is the City's preference that this restriction be extended to stormwater treatment measures in general.

Backyard GI systems are strongly discouraged because they are less accessible and visible than front yard or common area stormwater treatment measures. In order to inspect backyard treatment measures, the City must contact the property owner to schedule a time to visit their backyard a minimum of every 5 years. If issues are identified, the number of visits would increase. This may feel invasive to the homeowner, despite maintenance agreements being in place which allow the City to access the backyard for inspections. In addition, backyard treatment measures are "out of sight, out of mind", and can be mistakenly forgotten, poorly maintained, or even removed. The project maintenance agreement requires the property owner to repair or reconstruct the treatment measure if not functional, which could be very costly and an unexpected financial expense. Reconstruction may even exceed the cost of original construction, because at the time of reconstruction, the project designer and contractor would likely no longer be involved.

Green street improvement located on Old County Road.

Not every GI measure in the GreenSuite will be applicable to the City of San Carlos. Table 11 summarizes which measures will be most and least feasible given the following agency-specific constraints:

- **Limitations on use of Infiltration-Based Measures.** Certain characteristics of the City prohibit the use of infiltration-based treatment measures in some areas, including the following:
    - *Groundwater level.* The seasonal groundwater level in San Carlos is high in areas east of El Camino Real due to the low elevation and proximity to the San Francisco Bay.
    - *Soil Composition*. The soil types in the City generally have low permeability rates.

- *Soil Contamination*. Industrial properties east of El Camino Real may have contaminated soils.

This restricts the use of infiltration-based measures, such as stormwater planters (unless they are lined with a waterproof membrane). Permeable pavers also rely on the ability to infiltrate in order to be considered "pervious". Per the MRP glossary, surfaces are considered pervious if they are properly designed to "store and infiltrate runoff at a rate equal to the immediately surrounding unpaved, landscaped areas, or store and infiltrate the rainfall runoff volume described in C.3.d".

Table 11. *Green Infrastructure Measures in Context.*

Type of Treatment Measure	Likely feasible in most City contexts	Likely not feasible in most City contexts
Green Infrastructure	Stormwater Planter (also known as a Bioretention or Biofiltration Area)* Rain Garden* Stormwater Curb Extension * Tree Well* Stormwater Tree* Interceptor Tree Vegetated Swale (also known as a Bioswale)* Green Roof Green Gutter* Self-Treating Areas Self-Retaining Areas	Green Wall** Infiltration System Pervious Pavement Rainwater Harvesting
Mechanical Treatment	Media Filter High-Flow Rate Tree Well Filter	Hydrodynamic Separator

*Feasible if designed as "flow-through systems" (no infiltration).

**Green walls are not currently recognized as meeting C.3 stormwater treatment requirements, and can be expensive to design and construct, which makes it less likely they will be incorporated on projects.

6.4 GI Measure Sizing Approaches

6.4.1 Standard "C.3.d" Sizing

Provision C.3 Regulated Projects will continue to be subject to the treatment and hydromodification sizing requirements of Provision C.3.c and C.3.d of the MRP. The definition of a regulated project and details of various treatment sizing options are described both in the MRP as well as the SMCWPPP C.3 Stormwater Technical Guidance Manual.

The MRP also requires that GI projects be "designed to meet the treatment and hydromodification sizing requirements in Provisions C.3.c and C.3.d" (Provision C.3.j.i.(2)(g)). This means that for most projects, there will be no difference in the sizing requirements between a Regulated and Non-Regulated Project. As a goal, the City will aim to meet the requirements of Provision C.3.d when sizing GI facilities. However, should site constraints preclude fully meeting these requirements, the City will construct a smaller facility

(for green streets projects, refer to Section 6.3.3 of the GI Plan, which describes the BASMSAA Alternative Sizing Criteria). Rather than a black-and-white approach to designing GI facilities, the City proposes a flexible, adaptive approach. Even if a small facility is constructed with a proposed project, some treatment is better than no treatment, and future facilities can be constructed within the right of way to distribute the area to be treated amongst multiple facilities. Where feasible, bioretention facilities can be designed as "off-line" facilities, and treat a smaller portion of the runoff, bypassing some of the runoff to be treated downstream or high flows.

Non-Regulated GI projects are permitted to use the full suite of stormwater treatment measures described in both the *C.3 Regulated Projects Guide* and *Design Guide*, including mechanical treatment measures such as tree well filters and media filters, without the restrictions imposed on Regulated Projects. The *C.3 Regulated Projects Guide* summarizes the more technical aspects of green infrastructure measures, including how they should be sized for treatment. The *Design Guide* introduces some GI measures which are not discussed in the *C.3 Regulated Projects Guide*. For these, it is not clear how to size the GI measures for treatment.

Measures which are not considered treatment for Regulated Projects (and therefore have no associated sizing criteria for Non-Regulated Projects) are as follows:

- Vegetated Swale
- Green Gutter
- Stormwater Tree
- Green Wall

Three (3) of these measures (vegetated swale, green gutter, and stormwater tree) can optionally be constructed with the same cross section as a stormwater planter (18 inches of bioretention soil, and 12 inches of Class 2 Permeable Material). If these measures are built to the same standards as a Stormwater Planter under the GreenSuite, the same sizing factors as those that apply to Stormwater Planters would apply. Otherwise, a customized sizing approach would need to be proposed by the designer and verified by the City, with appropriate factors of safety applied.

For Green Walls, there is no like-measure with established sizing criteria. Therefore, when designing green walls, there will be no minimum sizing criteria, and they can be constructed to fit the site-specific context and available wall space.

6.4.2 Defining Drainage Management Areas

Regulated projects must be sized to provide treatment for the effective impervious area which drains to them. This may be limited to the property lines, but sometimes can include a portion of offsite area which runs onto the property and therefore the stormwater treatment measure, without being separately discharged or bypassed to the storm drain system. For more information about defining catchment areas for projects, refer to the *C.3 Regulated Projects Guide* and Chapter 4 of the *Design Guide.*

Non-Regulated public street applications of GI measures must also be sized to provide treatment for the effective impervious which drains to them, with an exception – they need not be designed to treat contributing private areas, such that the drainage management area (also called "catchment area") is limited to the street right of way, or in some cases, the back of sidewalk. If the sidewalk drains to a planter strip, the drainage management area can be limited to the back of curb, since the sidewalk is "treated" by the landscaped planter strip. This approach was first established in the 2009 San Mateo County Sustainable Green Streets and Parking Lots Guidebook (refer to Chapter 5) and has been deemed acceptable for the purposes of sizing projects for the 2018 C/CAG Safe Routes to School (SRTS) and Green Streets Infrastructure Pilot Program. Sizing for public street applications is not discussed in the GreenSuite.

6.4.3 Alternative Sizing Approach

6.4.3.1 Alternative Approach Description (MRP C.3.j.2.g)

All GI projects should be designed to meet the treatment requirements of Provisions C.3.c and C.3.d of the MRP (and hydromodification requirements, where applicable). However, an alternative regional sizing approach was developed for street projects where site constraints preclude fully meeting the sizing requirements of Provision C.3.d.

BASMAA was tasked with developing Alternative Sizing Criteria on a regional basis. Per the MRP, GI facilities must be sized using either a flow, volume, or combination flow and volume method, depending on the type of treatment measure used and based on the engineering judgment of the project designer. The least conservative method is the combination flow and volume method, which specifies that treatment facilities should be sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data. Using the combination flow and volume method and a continuous simulation analysis, Dubin Environmental Consulting assessed what sizing factors are needed, assuming a standard bioretention area cross section, to achieve the MRP sizing requirements. It was determined that bioretention facilities with a standard cross section can both capture and treat the required amount of Provision C.3.d runoff when sized to 1.5% - 3% of the tributary equivalent impervious area, depending on the project location.

Hydromodification management control requirements were also assessed. Dubin Environmental Consulting determined that a standard bioretention facility sized to 4% of the tributary equivalent impervious area, having a 6-inch deep surface storage layer, 2-inches of freeboard, 18 inches of bioretention soil, and 12-inch deep gravel storage layer would meet the hydromodification standard at any location in the Bay Area.

6.4.3.2 Conditions Under Which the Alternative Approach May Be Used

The BASMAA Alternative Sizing Criteria can be used when site constraints are present which preclude fully meeting the sizing criteria.

Where feasible, bioretention facilities on street projects should be sized as large as possible. There are several reasons to design and build facilities larger than the Provision C.3.d minimum:

- Better performance
- Ensure compliance with Provision C.3.d despite minor flaws in either design, construction or maintenance
- Engineering safety factor
- Maximize removal of pollutants
- Allows the facilities to operate as full trash capture devices
- Allows the facilities to manage hydromodification effects

However, existing streetscapes can be challenging to retrofit, making it difficult to build large GI facilities. These constraints include the following:

- Limited project funding.
- Larger facilities can result in more parking loss and more impacts to residential driveways.
- The presence of existing underground utilities can create restrictions in either the footprint or depth of a GI facility. Typically, clearances are required by the utility owner between the existing utility and the GI facility and any associated storm drain piping. In addition, having utilities in the GI facility can create issues down the road, as the utility owner must be careful not to destroy the GI facility or impair its function when performing repairs on their utility lines. Utility crews are typically not familiar with the construction requirements or functionality of GI facilities.
- The presence of existing or proposed above-ground structures and fixtures such as streetlights, fire hydrants, and utility boxes can reduce the amount of functional cross-sectional area of the GI facility.
- Larger bioretention facilities are likely to impact existing mature trees and root systems. It may be preferable to reduce the treatment area in order to preserve a tree, especially given that mature trees offer many stormwater quality benefits.
- Sometimes, the elevations of nearby storm drain facilities, or the lack of storm drain facilities put restrictions on either the depth or use of an underdrain facility or overflow structure.
- It is difficult to define and control catchment areas for street projects, because both public areas (streets, curbs, and sidewalks) and private areas (residential or commercial areas, some of which

may be treated by onsite facilities) drain to the bioretention areas. Typically, it would make the project infeasible to aim to treat the entirety of public and private runoff.

- The in-situ soil permeability is often low, and poor quality. Protection of the adjacent roadway structure (e.g., via deep retaining curbs) is often necessary to prevent compromising the roadway by oversaturation. This can increase project costs.
- In some cases, it may be preferable to limit the depth of the facility adjacent to the roadway or sidewalk, or to introduce 3:1 side slopes to promote safety. These modifications for safety can reduce the effective area of the treatment measure.
- Right-of-way is highly limited, and the City must always consider the site context and various City objectives when designing a project. Truck turning, the presence of bike lanes and pedestrian walkways, parking loss, through lane widths, and driveway impacts are all considerations when designing GI facilities on a public street.

Stormwater tree well located at In-N-Out on Industrial Road.

6.4.3.3 Tracking and Reporting Applications of the Alternative Approach

Pollution reduction that is achieved by GI facilities on street projects will be estimated in accordance with the Interim Accounting Methodology (BASMAA 2017), which describes the methodology that is being used to demonstrate progress towards achieving the PCB and mercury load reductions require during the

term of the current MRP (MRP 2.0). It will also be estimated in accordance with the San Mateo County Reasonable Assurance Analysis.

Because projects that use the BASMAA Alternative Sizing Criteria can still demonstrate compliance with the Provision C.3.d requirements, they will not be tracked separately from other GI projects. However, when reporting areas that are treated by these bioretention areas, only the area for which treatment is provided will be reported. **More information about tracking of GI projects is provided in Chapter 5, "Project Tracking".**

7.0 INTEGRATION WITH OTHER PLANNING DOCUMENTS

7.1 Introduction

To ensure implementation of the GI Plan, the MRP states that the GI Plan shall contain the following:

> *C.3.j.i.(2)(h): "A summary of the planning documents the Permittee has updated or otherwise modified to appropriately incorporate green infrastructure requirements, such as: General Plans, Specific Plans, Compete Street Plans, Active Transportation Plans, Storm Drain Master Plans, Pavement Work Plans, Urban Forestry Plans, Flood Control or Flood Management Plans, and other plans that may affect the future alignment, configuration, or design of impervious surfaces within the Permittee's jurisdiction, including, but not limited to, streets, alleys, parking lots, sidewalks, plazas, roofs, and drainage infrastructure. Permittees are expected to complete these modifications as a part of completing the Green Infrastructure Plan, and by not later than the end of the permit term."*
>
> *C.3.j.i.(2)(h): "To the extent not addressed above, a work plan identifying how the Permittee will ensure that green infrastructure and low impact development measures are appropriately included in future plans (e.g., new or amended versions of the kinds of plans listed above)."*

7.2 Evaluation of Planning Documents

The City undertook a review of its existing planning documents to determine (1) if the documents had opportunities for GI implementation; (2) whether existing language and policies supported GI implementation; and (3) the need and potential to update the planning document to implement GI. The planning documents were then organized into the following categories:

- Planning Documents that do not require modifications or are unrelated to GI;
- Existing Planning Documents which support GI Implementation;
- Modifications made to Existing Planning Documents; and
- Planning documents to be updated in the future.

The City presents the key planning documents which include language that support or relate to GI implementation in section 7.3. Planning documents that will be updated in the future are discussed in section 7.4.

7.3 Existing Planning Documents Which Support GI Implementation

The implementation of GI is addressed in many of the City's existing planning documents' policies, goals, and objectives. These documents will likely not be updated in the near future. However, because of the multiple benefits that can be achieved through GI, the City can implement GI as a strategy for flood reduction, climate change adaptation, traffic calming, and other City goals. Table 12 summarizes the City's existing documents and how each document supports GI implementation.

Table 12. *Existing planning documents which support GI implementation.*

Planning Document	Related Sections and Pages
Climate Action Plan 2009	Pg. 24) Goal 1: Expand energy saving opportunities to businesses. Pg. 24) Goal 2: Improve residential energy efficiency. Pg. 24) Goal 3: Adopt a green building standard for new development and major remodels. Pg. 24) Goal 4: Create water and waste efficient landscapes. Pg. 24) Goal 5: Identify opportunities for on-site renewable energy generation on City and privately-owned property. Pg. 24) Goal 6: Implement reduction strategies included in the energy audit of City facilities. Continue to monitor City facility performance. Pg. 24) Goal 7: Provide for increased albedo (reflectivity) of urban surfaces including roads, driveways, sidewalks, and roofs in order to minimize the urban heat island effect. Pg. 24) Goal 8: Encourage tree planting.
In the CAP, the City created the goal of reducing greenhouse gas emissions by 15% by 2020 and 35% by 2030 when compared to 2005 levels. These objectives are made achievable by identifying twenty-one reduction measures, some of which are directly related to GI implementation. For example, in the CAP the City committed to creating more water efficient landscapes, encouraging tree planting, reducing the urban heat island effect, and actively promoting walking and biking as safe modes of local travel. These measures, while originally identified as methods to reduce greenhouse gas emissions, are also achieved by implementing GI. By converting existing, older "gray" infrastructure to GI (such as green streets) the City can create spaces that reflect heat, absorb greenhouse gas emissions, provide landscaping that is drought resistant, and develop complete streets that promote alternative forms of transportation. The City plans to update the CAP in 2020. **For more information about this update, refer to Section 7.5.2.**	

General Plan – Envision 2030 October 2009	**Circulation & Scenic Highways Element** Goal 1 – Develop a Circulation System that is safe, environmentally-friendly and responsive to the needs of various planned land uses. Policy 3.13 - Traffic Calming **Community Safety & Services Element** Policy 2.2 - Impervious Surfaces **Housing Element** Action 1.6 - Publicize Weatherization and Water Conservation Programs Policy 2.2 - Green Building Materials, Designs and Strategies Policy 2.3 - Green Building in New Development Receiving City Assistance **Environmental Management Element** Action 2.6 – Consider preparation of Watershed Management Plans. Policy 5.1 – Reduce Discharge of Toxic Materials by Promoting BMPs. Action 5.7 – Encourage Site Designs that Manage Stormwater Runoff Action 5.2 - Bioswales and Biofiltration Action 5.3 – Minimize Road Surface Pollutant Runoff. Action 5.4 – Water-efficient Landscaping Action 5.6 – Drought-tolerant Landscaping Action 5.10 – Implement NPDES Permit and BMPs
The San Carlos 2030 General Plan includes the Vision for the City moving toward 2030. Policies and Actions can be found in multiple elements that support GI implementation, both directly and indirectly. The Environmental Management Element specifically contains policies and actions that address GI Plan goals. The City's General Plan also outlines goals that highlight the importance of protecting the natural resources in San Carlos that are aligned with the initiatives in this document. The goals outlined in the Environmental Management Element of the General Plan call for the City to protect natural habitat and other biological resources, promote healthy streams and riparian corridors, enhance the urban forest, ensure a high level of domestic water quality, reduce toxics in stormwater runoff, and prepare for the potential impacts of climate change. GI will allow the City to protect the quality of its streams and natural wetlands while creating a more attractive streetscape. By adhering to the guidelines laid out in this document, the City is actively working toward achieving these long-term sustainability goals.	
Complete Streets Policy 2012	Exhibit A, Item A. 2 Context Sensitivity
The Complete Streets Policy addresses sidewalks, shared use paths, bicycle lanes, bicycle routes, paved shoulders, street trees, landscaping, and planting strips. The policies to implement complete streets create opportunities to implement GI.	

7.3.1 Master Plans

San Carlos has developed a Parks Master Plan (2008), Storm Drain Master Plan (2017), ADA Transition Plan (2013), Civic Facilities Master Plan (2012) and a Bicycle and Pedestrian Master Plan (to be adopted in 2019). The plans do not include specific language that address or support GI opportunities but involve the redevelopment of public infrastructure which provides opportunities to coordinate GI projects through the CIP. Given that the Master Plans were updated recently and include current information, it is unlikely that the plans will be updated within the permit term.

7.4 Future Updates

In review of existing Planning Documents, San Carlos determined that updates to existing documents could strengthen the connection between the GI Plan and existing documents. Below is a summary of the documents to be updated to further support GI implementation. The update process may differ between the documents, but generally, updates to existing planning documents requires public hearings and consideration from Planning Commission and City Council. In the updates of future documents, planning and public works staff will support the process in updating and developing planning documents in order to ensure that the requirements and policies of the GI Plan are incorporated. The anticipated update schedule is presented in Table 13.

Table 13. *Schedule for update of planning documents.*

Name of Plan to be Completed / Updated	Anticipated Date of Completion / Update
San Carlos General Plan – Housing Element	2023
San Carlos Climate Action Plan	December 2020

7.4.1 General Plan – Housing Element

The General Plan will not be updated together as one document. As noted in Table 12, some policies in the existing General Plan already address GI implementation. The next Element to be updated is the Housing Element, which is scheduled to be updated in 2023. Staff will work together to include language that will integrate the objectives of the GI Plan as appropriate and consistent with State law housing requirements.

7.4.2 Climate Action Plan

The City has scheduled to update their Climate Action Plan in 2020 to align with state laws requiring more aggressive GHG emissions reduction measures. The update would consist of new GHG emissions reduction goals to meet 2030 targets and new GHG emissions reductions strategies. The City will continue to promote green streets construction as a means of achieving GHG emissions reduction goals. The City intends to better connect the Climate Action Plan and the GI Plan by highlighting how a healthy urban forest sequesters carbon and emphasizing GI as a climate resiliency strategy, namely in the reduction and prevention of localized flooding. These updates will be located in a new section for Climate Resiliency.

8.0 FUNDING OPTIONS

8.1 Introduction

Provision C.3.j.i.(2)(k) of the MRP states that the GI Plan shall contain the following:

> *"An evaluation of prioritized project funding options, including, but not limited to: Alternative compliance funds; grant monies, including transportation project grants from federal, State, and local agencies; existing Permittee resources; new tax or other levies; and other sources of funds."*

To undertake this evaluation, the City (1) reviewed the GI program elements and associated costs, (2) participated in the development of a Nexus Funding Evaluation of various funding strategies through the GI TAC, (3) assessed the funding strategies of the Nexus Funding Evaluation for local applicability, (4) discussed opportunities for public and private cooperation, and (5) developed a process for funding GI through integration into the City's existing Capital Improvement Program.

A single source of revenue for GI is unlikely to cover all the various elements of a GI program. Instead, GI will require a range of funding sources. This chapter is a starting point to both gauge funding needs and develop a suite of funding options for use with GI. As the program develops, the funding needs and opportunities may change. This chapter and the City's approach to funding may be revisited in the future as more information becomes available and more awareness is brought to the GI policies and requirements.

8.2 GI Program Elements and Funding Needs

8.2.1 Current Assessment of GI Costs

The need for funding for GI is high. It is estimated that the cost to construct the amount of GI required to be in place by 2040 per the MRP will be in the tens of millions of dollars, and this would just be the capital (construction) costs and would not encompass the many other costs associated with GI. These other costs include overall management of the GI program, tracking completed projects, planning, design, as well as operations and maintenance.

One of the difficulties of developing funding for GI is that few funding sources are available which can be used for all the elements of a GI program throughout its lifecycle. For example, grants can be used to fund design and construction costs, but not overall management of the GI program or operations and maintenance costs.

GI costs may include the following:

- **Program Management.** Though the City has managed MRP compliance for many years, GI implementation will take additional staff time beyond permit compliance activities prior to 2016. In addition to reviewing capital projects for GI potential, City staff will begin tracking GI projects

and monitoring progress toward the milestones for GI implementation for 2030 and 2040. Participation in the SMCWPPP GI TAC will also likely continue to be necessary past the date when the GI Plan is submitted in September 2019 to assist in developing the Countywide Sustainable Streets Master Plan and to coordinate with other San Mateo County agencies on GI implementation and tracking efforts. Interdepartmental meetings between the Public Works, Planning, and Parks and Recreation Departments will also likely continue to be necessary to ensure that GI is implemented successfully on private and public projects.

- **Capital Costs.** GI capital costs highly depend on the type of measure to be implemented, the size of the facility, how easily the measures can be incorporated on a project that includes other elements, and the local context (such as the ease of connecting to existing drainage systems, how steep the area is sloped, space limitations, and nearby existing utilities).

  Because of the limited construction cost data available for public GI projects in San Mateo County, it is difficult to estimate their cost. Several private projects have been constructed in this county, but often the City does not have access to the detailed cost data for their GI elements. Private project and public project costs differ in key ways: public projects must contend with the removal and modification of existing street infrastructure, utility conflicts, space limitations, pedestrian safety and grade limitations, and must be constructed with prevailing wage labor forces. San Mateo County and the San Francisco Bay Peninsula also tend to have higher construction costs than other Bay Area counties, and California in general has higher construction costs than the nationwide average. In addition, GI detailing can vary widely from jurisdiction to jurisdiction, making it difficult to make cost comparisons between projects.

  Current (2019) capital costs for a bioretention area can range from $50 to $150 per square foot, but this is highly dependent on the context, grading required, water and power sources, storm drain connection proximity, and selected plant palette and irrigation system. Permeable paving can range from $25 to $100 per square foot, depending on the depth of the section and whether it is necessary to work around existing utilities or trees. Capital costs of $129,000 to $187,000 per acre of impervious area managed[24] were quoted for projects in Onondaga County, New York, which would work out to roughly $258,000 to $374,000 for construction costs of curb extensions installed at an intersection which treats 2 acres. Limited recent bid result data in San Mateo County suggest that the same size project here would cost upwards of $500,000 to construct.

- **Planning and Design Costs.** Planning and design costs for capital projects are typically around 10 to 20% of the capital costs. Integrating GI into other capital programs can reduce both the construction costs for GI as well as the design costs. The *Design Guide* clarifies the application of

[24] *The Real Costs of Green Infrastructure.* (2015, December 2). Stormwater Report. https://stormwater.wef.org/2015/12/real-cost-green-infrastructure/.

GI to public projects. As GI becomes more common in public projects and GI designs are standardized, GI projects will become less expensive to plan and design.

- **Operation and Maintenance (O&M) Costs.** Limited data is available on maintenance costs, because maintenance is often performed by City staff as part of their regular course of business, making it difficult to separate time spent on standard City landscaping and streets versus GI. It is possible that due to the specialized nature of the maintenance of GI measures, or if staff are otherwise at capacity on maintenance of other City infrastructure, the City may need to contract out maintenance work to a vendor. Vendors may in the future have special GI maintenance certifications that staff do not have, like the Bay Friendly Landscaping certification or the National GI certification by the Water Environment Federation. In Onondaga County, New York, maintenance costs for bioretention areas were approximately $2000 per acre of impervious area managed per year.[25] This would be $4000 per year for curb extensions installed at an intersection which treats 2 acres, or $200,000 in total over a 50-year life of the system. Again, these costs may be lower than what would be anticipated in San Mateo County, and do not reflect inflation or the rising cost of construction projects. The *Design Guide* further clarifies GI maintenance needs, leading to standardized maintenance practices and lower maintenance costs.
- **Outreach and Education Costs.** The City will continue to participate in outreach and education for stormwater quality through the SMCWPPP Public Information and Participation (PIP) subcommittee. However, due to their limited budget and various priorities (e.g., trash and litter reduction as well as outreach to businesses and construction sites to coordinate with the stormwater inspection programs), the PIP subcommittee may have limited ability to offer GI outreach. Continuing to provide GI outreach and education will be an important facet of GI implementation, because it can lead to not only a better understanding of the measures being installed, but also could build support for a dedicated GI or environmental protection funding source. This could potentially result in the construction of GI elements within individual homes and businesses on a voluntary basis.
- **Inspection Program Costs.** The City inspects private GI projects in accordance with its Enforcement Response Plan and Provision C.3.h of the MRP. The City's O&M agreement template allows for the City to seek reimbursement of the inspection costs; historically, however, the City has not asked for reimbursement of these inspections. A typical inspection, including time for coordinating with the site representative and writing the report, takes approximately 3 hours per site. If follow-up inspections are required, an additional 3 hours is often required for each follow-up visit. The frequency of inspections is specified in the City's ERP, but generally sites are inspected on a 5-year interval or more frequently, and 20% of the City's private GI projects are

[25] *The Real Costs of Green Infrastructure.* (2015, December 2). Stormwater Report. https://stormwater.wef.org/2015/12/real-cost-green-infrastructure/.

inspected each year. It is estimated that approximately 4 sites are inspected per year, at a cost of approximately $2000-$4000 per year. As additional GI projects are constructed, this cost will increase.

Figure 22 depicts the estimated relative costs of the GI program elements for a GI project with an assumed $500,000 construction cost consisting of stormwater curb extensions at an intersection. Limited data is available to ascertain these relative costs, so they have been assumed until more data becomes available.

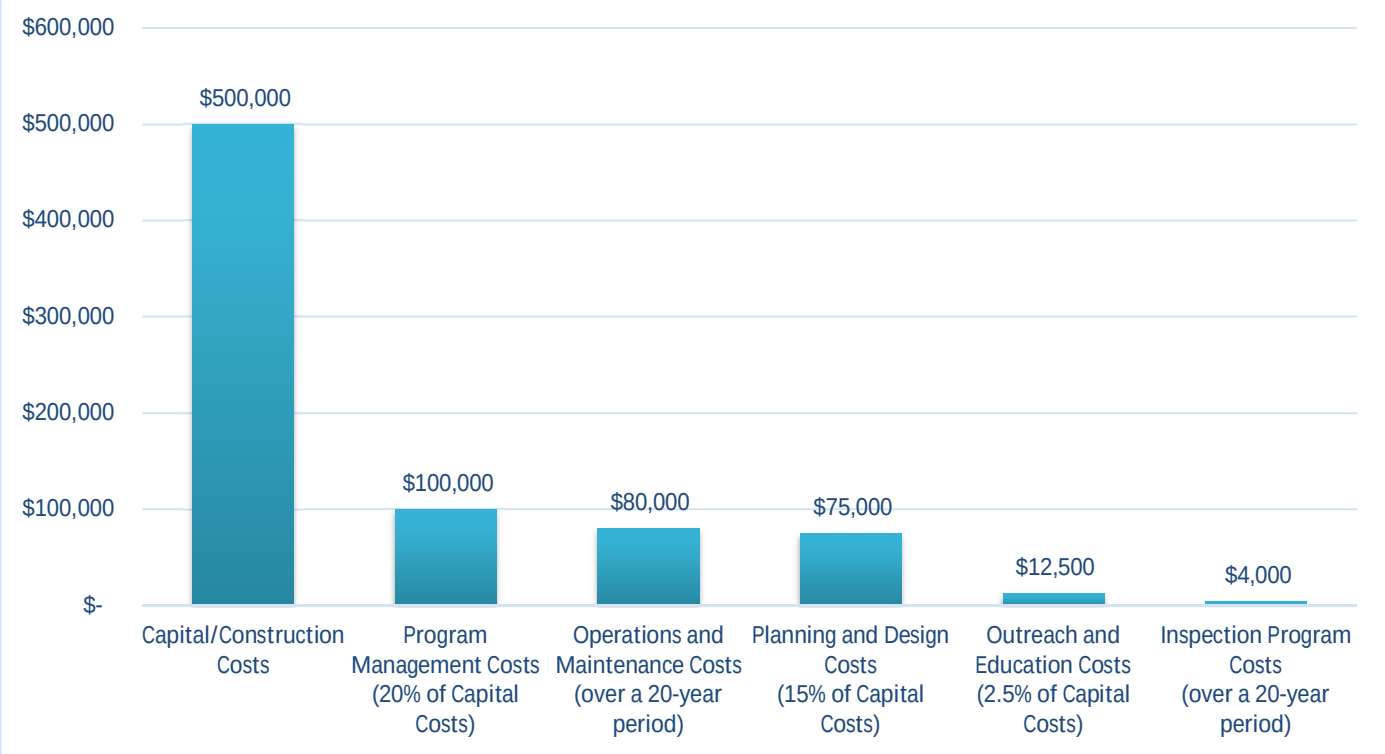


Figure 22. *Estimated Relative Costs of Green Infrastructure Program Elements.*

8.2.2 Future Assessment of GI Costs

Section 8.2.1 describes the costs associated with the various elements of a GI program based on limited funding information available in San Mateo County and in other areas of the United States. Estimated costs for GI will be improved over time with agency-specific and County-specific knowledge as the GI program is implemented. Sources of cost estimating data will include bid results from GI projects; proposals received from designers and construction management firms to design and inspect GI projects; actual consultant and staff time spent providing program management, planning, and outreach services; public works maintenance staff time performing maintenance on GI systems; and time spent performing inspections. It will likely be difficult to assess time spent by staff on tasks relating to GI, as it will not necessarily be tracked separately from other staff time.

The City may also draw from other published resources available to estimate the costs of GI. For example, the SFPUC has made its cost estimating model available to other municipalities to use for planning-level analyses. This Excel-based model can be used as a planning tool to plan and budget for GI maintenance

obligations for labor and costs. The user will be able to input user-defined project attributes (e.g., BMP type, size, date), and the model will yield long-term maintenance costs and staffing obligations as outputs.

8.3 Funding Strategies

Through the GI TAC, the City and SMCWPPP developed a GI Funding Nexus Evaluation document for jurisdictions within San Mateo County with the goal of expanding on existing stormwater funding sources and supplementing them with strategies in line with GI challenges. This document describes and evaluates funding mechanisms, outlines funding needs, and provides strategies to implement GI. This subsection is intended to describe the City-specific approach to the funding strategies discussed in the Nexus Evaluation. Rather than repeating the information available in the Nexus Evaluation, this section can be used in connection with the Nexus Evaluation to further explore those funding options that align with the City's priorities. It is anticipated that the evaluation of funding options for GI will be an ongoing process and revisited in the future as the program develops.

BALLOTED APPROACHES

The most sustainable and formative funding approach, but also the most challenging. Successful balloted approaches are most inclined to provide significant funding for stormwater management and stormwater-related projects. The two biggest challenges for balloted approaches are planning the strategy for the proposed project/program and effectively presenting the project and vision to the voting community. Examples of balloted approaches include the following:

- **Parcel Taxes**
- **Other Special Taxes**
- **Property-Related Fees**
- **General Obligation Bonds**

City-Specific Approach: At this time, the City does not plan on pursuing green-infrastructure specific parcel taxes, other special taxes, property-related fees, or general obligation bonds, but may revisit these funding approaches at a later date as the program develops. Other local agencies may move forward with these funding strategies in the coming years. By delaying implementation of these funding strategies, the City can build upon the efforts of those early adopters.

NON-BALLOTED APPROACHES

These include funding strategies that do not require a ballot or voter approval. Non-balloted approaches may encounter lack of support from the general public; therefore, a nexus study/cost analysis will be required to determine the middle ground cost that would not be considered a tax to the payer of the fees. Examples of non-balloted approaches include the following:

- **Senate Bill 231**
- **Regulatory fees**
- **Developer Impact Fees**
- **Re-Alignment**
- **Grants**
- **Loans**

City-Specific Approach: The City's Bransten Green Street Project, though not grant-funded, was a project that the City volunteered for and was paid for by C/CAG. This project is in an industrial area and was an interesting pilot study of GI in that context. The City also recently received a grant for a Pedestrian Safety Project, and it may be possible to coordinate bike and pedestrian safety improvements with GI improvements. The City will continue to pursue grant opportunities as they arise. At the Countywide level, the City will help to lobby for the inclusion of GI funding in transportation grants, stormwater grants, and other grants for capital programs that lend to integration with GI.

Senate Bill 231, signed by Governor Brown on October 6, 2017, helps to clarify that "sewer" is intended to be used interchangeably to mean "storm sewer" and "sanitary sewer" to gain access to funds made available by the formerly approved Proposition 218. However, there is not currently a legal precedent for an agency that has moved forward with instituting stormwater fees without a ballot measure, and it is important for any agency moving forward to consult with other agencies and industry groups to coordinate their efforts in a strategic manner. The City will continue to support Senate Bill 231 at a Countywide level through SMCWPPP and C/CAG, but already has a stormwater fee approved by ballot measure.

The City currently does not have regulatory or developer impact fees but may revisit these funding approaches later as the program develops. The City will also explore opportunities for re-alignment of funds.

SPECIAL FINANCING DISTRICTS

Financial frameworks that were constructed by the local government to levy fees, taxes, and assessments for any improvements and services conducted. Most special financing districts are required to conduct a ballot that includes affected property owners, but in most cases, these affect small areas or an individual land owner. Examples of special financing districts include the following:

- **Benefit Assessments**
- **Community Facilities District**
- **Business Improvement Districts**
- **Enhanced Infrastructure Financing Districts (EIFD)**

City-Specific Approach: The City does not have special financing districts nor is currently considering a special financing district for GI but may revisit this approach as the program develops. The majority of San Carlos is residential (roughly 65%), with a smaller portion consisting of commercial, industrial, or regional land uses (19.7%)[26]. The residential areas have hilly terrain and mostly private storm drain lines, which makes the installation of GI in residential areas difficult. The City has more opportunities for GI in the lower elevation areas, closer to the Bay, but some of these areas have soil contamination which can also be a GI implementation challenge.

The City will continue to enforce Provision C.3 on new and redevelopment projects, which ensures GI measures are constructed onsite. This program has been highly successful to date because the City has a large amount of development.

The City will continue to work with SMCWPPP to advertise how GI can bring economic vitality to the surrounding areas.

PARTNERSHIPS

Partnerships are effective strategies to acquire additional funds and resources needed for GI improvement projects. Collaborative efforts on projects with various entities do not guarantee direct additional funding, but they can establish alternative benefits that will assist the overall resources necessary to complete proposed GI projects. By distributing resources and funding throughout different entities, GI improvement projects and programs are capable of being delivered more cost-effectively. Examples of partnerships include the following:

- **Multi-Agency Partnerships (includes Regional Projects)**
- **Transportation Opportunities**
- **Caltrans Mitigation Collaboration**
- **Public-Private Partnerships (P3)**
- **Financial Capability Assessment**

[26] ABAG 2006.

- **Volunteers**

City-Specific Approach: The City will investigate opportunities to partner with other agencies to construct regional projects which help improve water quality Countywide. The City may pursue transportation funding which can be used to mitigate transportation challenges as well as construct GI. The City is interested in collaborating with Caltrans for a project in the vicinity of El Camino Real and US-101, which passes vertically through the City. The City has an upcoming Pedestrian Overcrossing (POC) project which will have GI, but Caltrans is not contributing funding to this project.

Currently, the City has few public GI measures; the vast majority of GI within the City is privately owned and maintained. Therefore, the City does not plan to organize a volunteer workforce for maintenance of GI measures at this time, but may look for other opportunities to collaborate with the public and build community support of GI measures.

The remaining funding strategies in this section (Public-Private Partnerships and Financial Capability Assessment) will not be pursued at this time, but the City may revisit these approaches in the future.

ALTERNATIVE COMPLIANCE

Previously, the SFRWQCB has provided alternative compliance options in Provision C.3.e.i of the MRP 2.0 which can be utilized on Special Projects that meet certain criteria and cannot feasibly install the required amount of LID treatment onsite. The alternative options include the following:

- **Construction of a joint stormwater treatment facility with the ability to treat combined runoff from two or more regulated projects**
- **Construction of a stormwater treatment system off-site**
- **Payment of an in-lieu fee for regional projects**

These and other alternative compliance options can also be used on Non-Regulated projects, but with more flexibility than what could be used on regulated projects. On regulated projects, the alternative compliance site must be within the same watershed as the site to be mitigated and be constructed within three years of the site to be mitigated. Regional project timelines may be extended up to five years. These same restrictions would not apply to Non-Regulated projects.

Examples of alternative compliance include the following:

- **In-Lieu Fees**
- **Credit Trading**

City-Specific Approach: Under the terms of the current MRP, in-lieu fees cannot be implemented simply enough to ensure successful funding of GI projects. If the regulations change to offer more flexibility, the City may reassess opportunities for in-lieu fees on regulated projects.

The City is interested in a future credit trading program and will continue to work with SMCWPPP and the GI TAC to explore this option further. As more GI projects are identified through the CIP screening process

(see Chapter 4, Project Identification and Prioritization), there will be more opportunities to utilize alternative compliance.

8.4 Economic Vitality Benefits and Public-Private Cooperation

It is sometimes necessary to balance GI goals and objectives with competing design guidelines and goals, such as encouraging high density, zero-lot line setbacks, density bonuses, reduced landscape requirements, and maximizing the structure footprint. Establishing additional requirements for the installation of GI on private properties may create an undue burden on private property owners and developers. At the same time, the costs to comply with the GI milestones will be significant, and it may be necessary to shift some of those costs to the private sector at some point in the future.

By communicating the benefits of GI to local businesses, the City hopes to encourage voluntary implementation of GI and/or build support for a special financing district to avoid needing to resort to additional blanket-style requirements on developers. On a project-by-project basis, the City can assess opportunities to meet water quality goals, and scale implementation to fit the project constraints. The City will continue to explore public and private cooperation opportunities as the GI program develops.

GI can help to support economic vitality by providing access to landscape and green spaces, which results in the following direct benefits to residential and commercial areas[27]:

- Higher property values and rent value
- Increased consumer spending in commercial districts
- Energy savings
- Reduced life-cycle and maintenance costs (for some treatment measures)
- Lower possibility of flood damage
- Lower water bills, if rainwater harvesting is used
- Reduced crime
- Improved health and job satisfaction for office employees
- Healthier and more sustainable communities
- Community placemaking
- Improved worker productivity
- Increased potential that patrons will linger longer on retail main streets
- Higher occupancy rates for apartments and shorter periods between leases

8.5 Integration of GI with the Capital Improvement Program

One obstacle to funding a GI program is that the City must balance the many needs of its community to both keep the City operational and well-maintained while working towards the goals and vision set forth

[27] *Green Infrastructure Design Guide,* 1st Edition. (2019, June). San Mateo County Water Pollution Prevention Program. Pages 1-13.

in the City's General Plan. Pavement maintenance, replacement and repair of underground utilities, transportation improvements, performing facility needs assessments and making facility upgrades, and parks improvements are all key facets of the City's Capital Improvement Program (CIP). The City will aim to creatively work with the existing CIP and budget to incorporate GI in various CIP projects while balancing the needs of its community.

GI measures are stormwater management facilities that mimic natural hydrologic processes such as filtration, infiltration, detention, and evapotranspiration, such as bioretention areas, permeable pavements, and green roofs. Though it is primarily an outgrowth of a stormwater or environmental program, GI can be considered an expansion of many different CIP projects because it provides benefits beyond simply improving water quality, as shown in Figure 23 below.

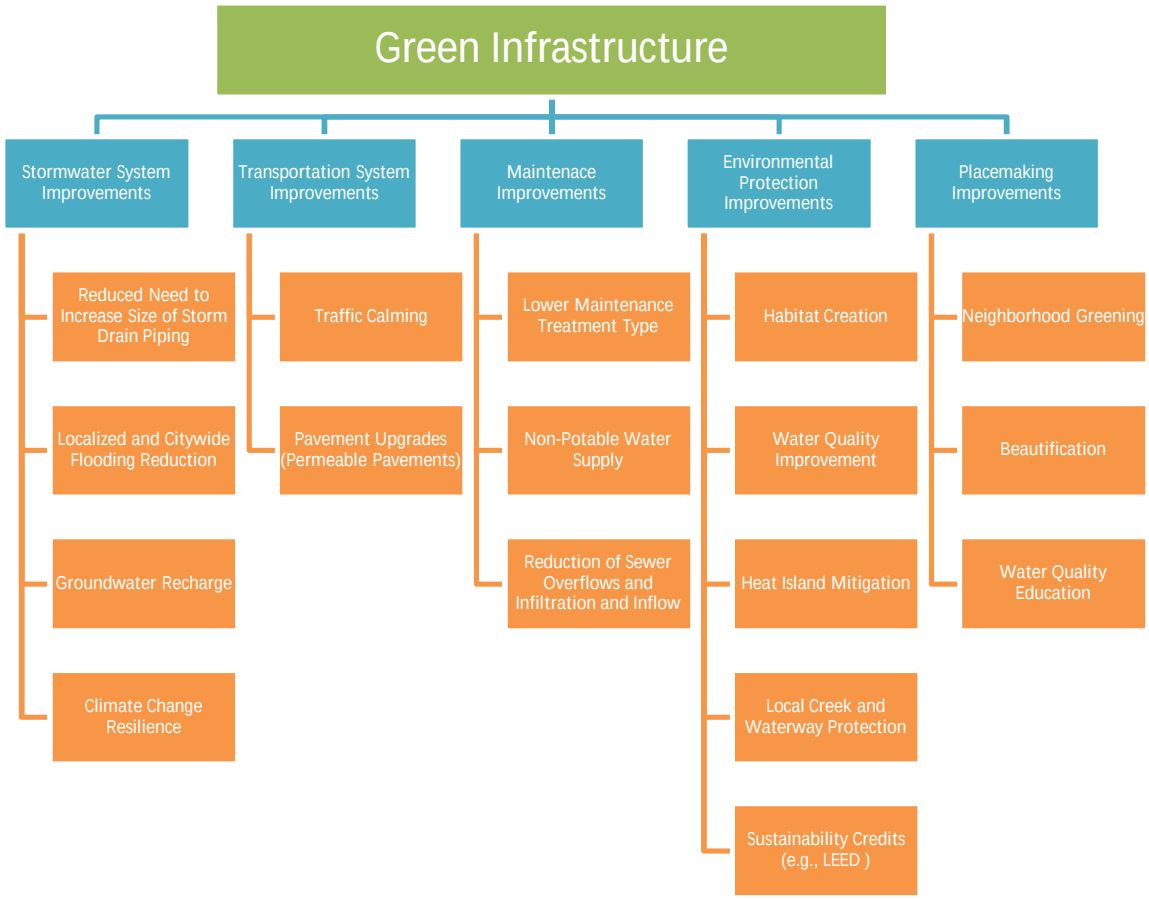


Figure 23. *Integration of Green Infrastructure with other types of Improvements.*

By recognizing the many direct and ancillary benefits of GI, it becomes possible to integrate GI in several CIP projects if the project goals align with the GI benefits. Examples of projects that potentially lend to integration with GI include the following:

- Park or facility upgrades
- Pavement rehabilitation
- Creek channel repairs

- Storm drain repairs
- Complete streets projects

Some cost savings will be achieved by early incorporation of GI. By integrating GI into the project scope early, the project can incorporate GI more seamlessly, and in a way that does not greatly increase project costs. Prioritization and early screening of CIP projects is discussed in Chapter 4, Project Identification and Prioritization.

Bioretention area located at the Landmark Hotel.

8.6 Integration of Green Infrastructure with Adopted Budget

The City of San Carlos has the following funding sources in its 2018-2020 Adopted Budget:

- General Fund Capital Project (0025)
- Parking-in-Lieu
- Gas Tax Fund (0016)

To facilitate the future integration of GI in the Capital Improvement Program, the City prepared a sample integration of potential GI measures into the City's current adopted budget as shown in Table 14. Sample projects listed do not necessarily have GI potential.

Table 14. *Sample Integration of Potential GI Measures with Adopted Budget.*

TYPES OF PROJECTS	FUNDING SOURCES	POTENTIAL GREEN INFRASTRUCTURE MEASURES										OTHER TREATMENT MEASURES
		Stormwater Planter / Rain Garden	Stormwater Curb Extension	Tree Well / Stormwater Tree /	Infiltration System	Pervious Pavement	Green Roof	Rainwater Harvesting	Vegetated Swale	Green Gutter	Green Wall	Hydrodynamic *Separator* *Media Filter* *High-Flow Rate Tree* Well Filter
Private Projects • 817 Walnut Street BMR Housing • Other Future Potential Projects	Private Funding Housing-in-lieu Fund General Fund Gas Tax Measures A, M, and I SB-1 Grants Capital Projects Fund	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transportation • Holly Street/US-101 Interchange and Pedestrian Overcrossing Project (C9459) • Brittan Avenue Widening at Industrial Road (C9461) • Four Corners Traffic Improvements (C9838) • Bicycle and Pedestrian Master Plan (C1802) • Brittan Avenue and Alameda De Las Pulgas Widening (C1803) • San Carlos Avenue Pedestrian Safety Improvements (C1806) • Traffic Calming Improvements (C1807) • Pedestrian Enhancement at Arroyo/Cedar and Hemlock/Orange Pathway (C1743) • Other Future Potential Projects	General Fund Gas Tax Measures A, M, and I SB-1 Grants Capital Projects Fund	✓	✓	✓	✓	✓			✓	✓		
Stormwater • Annual Storm Drain Improvements (C9531) • Other Future Potential Projects	General Fund Capital Projects Fund	✓	✓	✓	✓							✓
Park Improvements • North Crestview Park Improvement • Other Future Potential Projects	General Fund Capital Projects Fund	✓		✓	✓	✓		✓	✓			
Non-Stormwater / Facilities • El Camino Real/Rail Corridor Tree Planting and Irrigation Installation (C1746) • Other Future Potential Projects	General Fund Special Fund Capital Projects Fund	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

9.0 OUTREACH AND EDUCATION

9.1 Introduction

The MRP states that each Permittee under a GI Plan shall perform the following tasks:

> *Provision C.3.j.i.(4)(a): "Conduct public outreach on the requirements of this provision, including outreach coordinated with adoption or revision of standard specifications and planning documents, and with the initiation and planning of infrastructure projects. Such outreach shall include general outreach and targeted outreach to and training for professions involved in infrastructure planning and design."*
>
> *Provision C.3.j.i.(4)(b): "Train appropriate staff, including planning, engineering, public works maintenance, finance, fire/life safety, and management staff on the requirements of this provision and method of implementation."*
>
> *Provision C.3.j.i.(4)(c): "Educate appropriate Permittee elected officials (e.g., mayors, city council members, county supervisors, district board members) on the requirements of this provision and methods of implementation."*

The three primary goals of the outreach and education effort are summarized in Table 15.

***Table 15**. Outreach and Education Goals, Objectives, and Audiences.*

Outreach and Education Goal	Objective	Audience
Public Outreach	Conduct public outreach on the GI requirements, including outreach coordinated with adoption or revision of GI guidelines and standards and planning documents, and with the initiation and planning of infrastructure projects.	Both the general public and professionals involved in GI planning and design.
Train Appropriate Staff	Conduct training on the GI requirements and the methods of implementation.	Planning, Engineering, Public Works Maintenance, Finance, Fire/Life Safety, and Management Staff.
Education of Elected Officials	Conduct outreach on the GI requirements and methods of implementation.	Mayor, City Council, and Planning Commission.

One of the first steps in the development of a GI Plan is educating department staff, managers, and elected officials about the purposes and goals of GI, the required elements of the GI Plan, as well as the steps needed to develop and implement the GI Plan. It is vital to earn their support and commitment to the Plan and this new approach to urban infrastructure.

Outreach and education efforts began in FY 15-16 and will continue even after GI Plan adoption. Educating the public, City staff, and elected officials is an important aspect of a successful GI Program to promote the many benefits of GI, ensure it is designed, constructed, and maintained properly, and build support for GI implementation over the next 20 years and beyond.

9.2 Public Outreach

9.2.1 Local Efforts

The City conducted outreach in coordination with approval of the GI Workplan and GI Plan. **Refer to Section 9.4, Education of Elected Officials.**

In addition, the City developed a GI Webpage to feature the existing and potential GI projects within the City. **Refer to Section 5.3, City Public-Facing Project Tracking System.**

9.2.2 SMCWPPP Efforts

SMCWPPP has several committees which discuss ideas, plans, and schedules for new and ongoing participation in processes to promote GI, such as the New Development (ND) Committee, GI Technical Advisory Committee (GI TAC), and the Public Information and Participation (PIP) Committee.

SMCWPPP's Public Information and Participation (PIP) Committee releases an internal bimonthly document detailing their most recent outreach activities and plans for future outreach to the public, municipal staff, and elected officials. This outreach work includes information about rain barrel rebates, public-facing GI presentations and outreach materials, public outreach and citizen involvement events, as well as the Flows to Bay website which explains GI basics and provides links to documents relevant to municipal staff and elected officials, such as the *C.3 Regulated Projects Guide* and *Design Guide.*

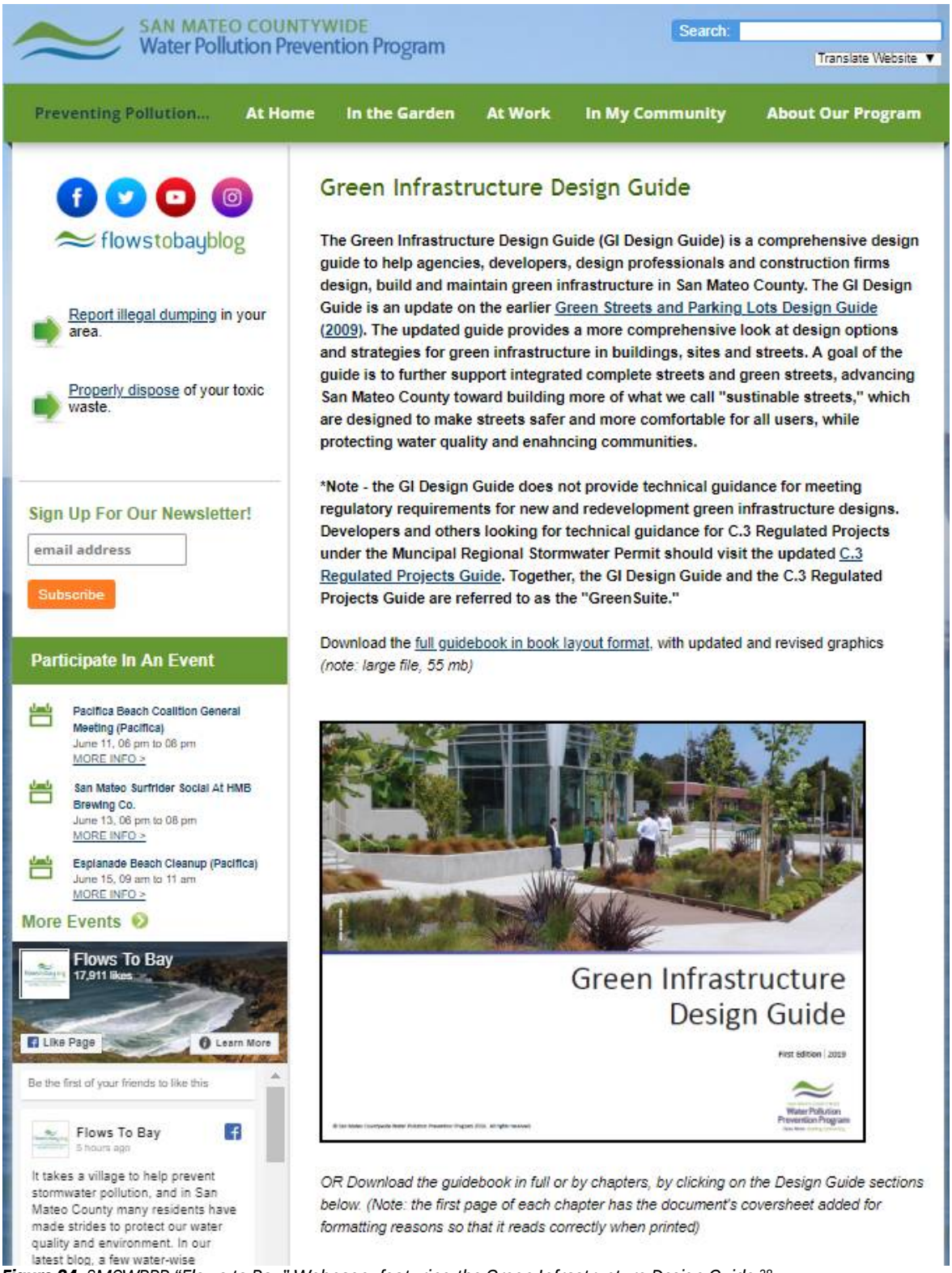


Figure 24. *SMCWPPP "Flows to Bay" Webpage, featuring the Green Infrastructure Design Guide.*[28]

[28] *San Mateo County Green Infrastructure Design Guide.* SMCWPPP 2019b. https://www.flowstobay.org/gidesignguide.

On June 18, 2019, SMCWPPP hosted a training event for municipality staff and design professionals to cover the new and updated guidance documents produced, including the *Design Guide* and *C.3 Regulated Projects Guide*.

SMCWPPP also engaged the public during the development of the Stormwater Resources Plan (SRP), which established a prioritization protocol for GI projects and an initial list of prioritized projects. Key public engagement efforts included the following (SMCWPPP 2017):

- Four presentations to the SMCWPPP Stormwater Committee (public meetings) between January and November 2016.
- C/CAG staff presented on the SRP planning process at the Sustainable San Mateo County's November 2015 Water Indicator Summit and San Mateo County's Office of Sustainability's Sea Level Rise in July 2016.
- When the draft SRP was complete, C/CAG hosted three public workshops to solicit public and stakeholder feedback in January 2017. At these workshops, C/CAG described the upcoming GI plans and how the SRP relates to that effort.
- C/CAG staff and consultants promoted the SRP workshops through social media (Facebook and Twitter).
- A press release was distributed to local media outlets, including both print and online publications to advertise the workshop. The press release also called attention to the Flows to Bay website (www.flowstobay.org), where the public could review the draft SRP and submit comments.

9.3 Train Appropriate Staff

Permittees must conduct training for appropriate staff on the requirements of this provision and methods of GI implementation. The City began this process in FY 15-16 with the development of the GI Workplan and continued to engage staff to discuss GI implementation. Interdepartmental coordination and staff training efforts included the following:

- Convened interdepartmental meetings with affected department staff and management to discuss GI requirements and GI plan development. Key departments involved included public works and community development. Outside of meetings, communication was maintained via email to update staff on progress of the GI Plan and to receive feedback on a regular basis. Developing the GI Plan helped to build connections between different departments.
- Discussed the potential for incorporation of GI on capital projects and continued to refine and add to the City's list of planned and potential GI projects. This list will continue to be updated in future years as part of the GI Plan implementation process.
- Participation in SMCWPPP training events.

- Participation in the SMCWPPP GI Subcommittee, New Development Subcommittee, and Public Information and Participation Subcommittee. All these subcommittees discussed GI implementation and outreach.

9.4 Education of Elected Officials

On June 12, 2017, CSG submitted the City of San Carlos GI Workplan to City Council, who approved the plan on consent. The GI Workplan included educational material about GI and was reviewed by the Council ahead of the official submission. The "What is Green Infrastructure?" section focused on raising awareness of what GI looks like, why it's important, and how it can benefit the quality of life and health of residents. When elected officials have a better understanding of GI and its benefits, they are much more likely to support its development.

The City of San Carlos will conduct outreach to elected officials in coordination with GI Plan approval. Because the City's GI Workplan was approved by City Council, the City decided to bring the GI Plan to Council Approval as well. The GI Plan sets milestones for GI, defines process and approaches for identifying and prioritizing projects, and has been crafted to align with other local planning documents. It will help to define the way in which the City approaches infrastructure on projects which have GI potential over the next 20 years and beyond. Therefore, the City felt it was appropriate and important to receive City Council buy-in and support. When the GI Plan is approved in June 2019, staff will present the key elements of the GI Plan to City Council.

Changes made to local planning documents to support GI implementation will be reviewed and approved by the Planning Commission as well as City Council.

9.5 Next Steps

The City will continue to engage the public while implementing the GI plan to advertise the many benefits of GI and build support for GI projects.

As part of the FY 18-19 Annual Report, a plan and schedule for new and ongoing participation in processes to promote GI at the regional level will be developed. The following future approach and potential activities were discussed at a recent New Development Subcommittee:

- Continue actions related to the Regional Roundtable, and reconvene the Roundtable with key participants such as SPUR, Caltrans, Save the Bay, etc. BASMAA and SFEP will be conducting tasks that address this idea, including creating an Executive Summary and Action Plan for the Roundtable "Roadmap" under a supplemental contract as part of the *Urban Greening Bay Area* grant.
- Continue to work with Caltrans on funding opportunities and GI implementation along State routes (e.g., El Camino Real and San Pablo Avenue).

- Continue to work with MTC to get GI integrated into transportation plans and funding (see next agenda item).
- Conduct workshops and trainings on asset management for GI, possibly in coordination with CASQA, the SFRWQCB and/or EPA.

10.0 IMPLEMENTATION APPROACH

10.1 Overview

MRP Provision C.3.j.i.(3) requires each Permittee to complete the following:

> *"Adopt policies, ordinances, and/or other appropriate legal mechanisms to ensure implementation of the Green Infrastructure Plan in accordance with the requirements of this provision."*

The various elements of the GI Plan represent a starting implementation toolbox (Figure 25) that the City will access over the next 20 years and beyond to improve water quality through the design and construction of GI facilities by the City and private developers. As the program develops, the City will apply an adaptive management strategy to be flexible in the face of changing conditions, development climates, and forecasts. Additional implementation strategies may be evaluated in the future.

Bioretention area located at Lyngsø on Shoreway Road.

Figure 25. *City's starting Green Infrastructure Implementation Toolbox.*

10.2 Private Development Program and Policies

10.2.1 Standard Operating Procedures

The City is committed to shifting its conventional "collect and convey" storm drain infrastructure to more resilient, sustainable stormwater management that reduces runoff volumes, disperses runoff to vegetated areas, harvests and uses runoff where feasible, promotes infiltration and evapotranspiration, and uses natural processes to detain and treat runoff. This will include implementing, where and when feasible, LID features and facilities such as pervious pavement, bioretention facilities ("rain gardens"), green roofs, and rainwater harvesting systems.

The City will continue to use its planning, zoning, and building authorities to require proposed new development and redevelopment projects to incorporate LID features and facilities in accordance with the New Development and Redevelopment (Provision C.3) requirements and the current edition of the San Mateo County Water Pollution Prevention Program C.3 Guidelines.

The City's development review process is summarized in flowcharts in Appendix D for each of the following project phases:

- Entitlement Pre-Application Review
- Development and Redevelopment C.3 Applicability Review
- Entitlement Review
- Plan Review
- Construction Oversight
- Closeout / Acceptance / Occupancy

These flowcharts summarize the process by which both Provision C.3 Regulated and Non-C.3 Regulated Projects are reviewed, and at what level of detail, at each project phase. They show the coordination efforts needed between City departments and external agencies. Documenting this process and integrating key information from the MRP helps to avoid information or department "siloing", where the requirements or process are only understood by a few key individuals. The City hopes to use these flowcharts to train new staff. The process will periodically be updated as necessary to reflect new MRP requirements.

The City of San Carlos utilizes standard conditions of approval during the entitlement review phase to require implementation of GI on private developments. The standard conditions include requiring applicants to comply with requirements of the MRP Provision C.3, complete either the C.3 and C.6 Development Review Checklist or Stormwater Requirements Checklist for Small Projects, incorporate efficient landscaping systems, and when feasible, incorporate landscaping that promotes surface infiltration, minimizes the use of pesticides and fertilizers, and incorporates sustainable landscaping practices.

10.2.2 Municipal Code

The City reviewed its existing ordinances and other legal mechanisms to identify if there was sufficient legal authority to implement the GI Plan and comply with the MRP.

The City already has the legal authority to require implementation of GI on both public and private projects which are Provision C.3 regulated under the MRP. The following section of the City of San Carlos Municipal Code provides the City with the authority to require GI implementation:

- **13.14: Stormwater Management and Discharge Control.** The code section references federal laws such as the Clean Water Act. The discharge of pollutants into storm drains and waterways is prohibited and the code sections include punitive measures for non-compliance. The code also references the use "Best Management Practices" to prevent or reduce the discharge of pollutants, which can include GI, as well as other hydromodification measures, which control the volume and rate of stormwater runoff from new developments and redevelopments.

In addition, the following additional sections of the Municipal Code can help to implement GI:

- **18.14 Stream Development and Maintenance (SDM) Overlay District.** This section of the code is intended to protect waterways and the health, safety and welfare of residents of the City by establishing regulations for development adjacent to creeks. One of the specific purposes of this section is to preserve and protect the natural hydrological system and ecological functions of waterways and apply to development within twenty-five feet of top of bank of Cordilleras, Belmont, Brittan and Pulgas Creeks. Incorporation of GI on site is a way of eliminating or minimizing increases in the rate and amount of stormwater discharge, thereby protecting waterways from the impacts of increased flow, pollutant loading, and erosion.
- **18.18 Landscaping.** This section of the code promotes water efficiency and conservation. Less water running off of landscaping means less water that can collect pollutants and discharge to the storm drain system. This section also promotes the planting and preservation of trees. Trees promote water quality by capturing runoff before it can fall on the street or other impervious surfaces.

10.2.3 CALGreen Integration

The City adopted by reference Title 24, Part II, California Green Building Standards Code (CALGreen) in Section 15.04.125 of the Municipal Code. There is a great deal of crossover between CALGreen and the implementation of GI, namely with regards to the following:

- Reuse of rainwater in plumbing systems
- Management of trash and recycling
- Water efficiency and conservation
- Marking of storm drain inlets

- Use of Low Impact Development

10.3 Maintenance Programs and Policies

An effective maintenance program helps ensure that GI measures continue to perform as designed.

Compared to conventional pipe-based stormwater facilities, GI measures are much more maintenance-intensive, and their performance is dependent on the level of maintenance. A successful maintenance program has three key elements: (1) consideration of maintenance issues during design of GI measures, (2) development of Operation and Maintenance (O&M) agreement, and (3) implementation and enforcement of this O&M agreement.

The City is responsible for ensuring that storm sewer system components within the City's right-of-way, such as conveyance pipes, manholes, catch basins, GI measures, and other BMPs are maintained and in good working order. Maintenance of these measures falls under the City's standard operating procedures for stormwater assets. Additional information about maintenance of stormwater treatment measures is provided in the San Mateo County GI Design Guide, Chapter 6.

Most stormwater facilities are owned and maintained by private property owners. These property owners include, but are not limited to, Homeowners Associations (HOAs), property management companies, school districts, commercial/industrial site owners, and residential homeowners. They are responsible for the care and management of their facilities, including regular stormwater inspections.

To ensure successful maintenance of installed GI measures on development projects, the City requires the project proponent to sign a statement accepting responsibility for operation and maintenance through an O&M Agreement. In this agreement, the project proponent accepts responsibility for O&M of the installed GI measures until such responsibility is legally transferred to another entity. Acceptance of maintenance responsibility can also be documented via another legally enforceable agreement or mechanism allowed per Provision C.3.h of the MRP. For example, written text in project deeds, or conditions, covenants and restrictions (CCRs) for multi-unit residential projects that require the homeowner's association or, if there is no association, each individual owner, to assume responsibility for the O&M of the installed GI.

The minimum requirements of any O&M Agreement are listed below:

- Full description of the stormwater treatment measures to be maintained;
- An O&M Plan describing the schedule for maintenance;
- Allows access to SFRWQCB staff, mosquito and vector control agency staff, and City staff;
- Property owner to maintain the function of the stormwater treatment system(s) and, if applicable, hydromodification management control(s); and
- Mechanism delineating that O&M of GI measures "run with the land".

The City has developed a Business Inspection Plan (BIP) and Enforcement Response Plan (ERP) describing the process how the City inspects GI measures on development projects to enforce proper installation and maintenance.

Bioretention area located at Orchard Supply Hardware Store.

10.4 Implementation of Public Green Infrastructure

10.4.1 Internal Policies that Support GI Implementation

The City maintains an ongoing list of prioritized GI opportunities, based on a screening of its Capital Improvement Program, as discussed in Chapter 4. This list is updated annually with new opportunities. The City will strive to incorporate GI on the following types of projects:

- New construction and substantial upgrades to City facilities, including public buildings, offices, stations, parking lots, corporation yards, which are found to have GI potential.
- Transportation projects for which the City is a sponsor or participant, including roadway widening or reconstruction, streetscape improvements, "complete streets" projects, traffic calming, safe routes to schools, and other projects that involve roadway reconfiguration, which are found to have GI potential.
- Storm drain capacity improvement or reconfiguration projects which are found to have GI potential.

- Parks improvements projects which are found to have GI potential.

When a project is found to be Provision C.3 regulated, measures will be installed in accordance with the Provision C.3 requirements of the MRP. Otherwise, alternative sizing criteria might be used, as discussed in Section 6.3.3.

If a project is reviewed for GI potential and it is found that implementation of GI is infeasible, the reasons for infeasibility will be documented internally, and the opportunity will be removed from the City's prioritized list of projects and maps.

10.4.2 Early Project Implementation

The City's existing and potential GI projects are summarized in Appendix C. These include private projects which were required or will be required to construct GI due to being Provision C.3-Regulated projects as well as public voluntary GI projects.

During the development of this GI Plan, the City has also begun exploring various GI opportunities which are appropriate to the context and character of the City.

Current GI opportunities include:

- 817 Walnut Street Redevelopment. The City will review the potential to incorporate GI on this housing project.
- Holly Street / US-101 Interchange and Pedestrian Overcrossing. The City will incorporate four bioretention areas on this pedestrian overcrossing project.
- San Carlos Avenue Pedestrian Safety Improvements. The City will review the potential to incorporate GI on this pedestrian safety improvement project.
- South Laurel Employee Parking Lot. The City will review the potential to incorporate GI on this parking lot project.

Concept sheets for these prioritized projects, including a description and approximate schedule for completion, are included in Appendix E. Appendix E also includes an approximate schedule for the City's current GI opportunities.

10.4.3 Workplan to Complete Prioritized Projects

MRP Provision C.3.j.i.(2)(j) requires each Permittee to complete the following:

> *"A workplan to complete prioritized projects identified as part of a Provision c.3.e. Alternative Compliance program or part of Provision C.3.j. Early Implementation."*

The schedule and early implementation concept sheets in Appendix E and the City's CIP serve as the City's initial workplan to complete prioritized projects. The City's list of prioritized projects will be continuously updated and will eventually include projects identified through the San Mateo Countywide SSMP.

10.5 Plan Updates Process

The GI Plan is intended to be a living document, periodically updated to reflect the findings of the City's adaptive management process, adjusting to reflect lessons learned and track progress to the GI Plan milestones. This does not necessarily mean that the text of the GI Plan will be updated, but rather that the City may revisit its internal tools or implementation strategies to verify they are adequate in the context of progress towards the GI Plan milestones. Table 16 proposes a preliminary schedule for when various elements of the GI Plan will be revisited. The City may change or modify this schedule without updating this section.

Table 16. *Green Infrastructure Plan Update Schedule.*

GI Plan Implementation Element	GI Plan Reference Section	What will be updated	Update Schedule
GI Milestones Progress	Chapter 3.0, Green Infrastructure Milestones	Tracking of progress towards meeting GI milestones	**Annually.** This will be tracked via the City's internal database until 2021, or when the San Mateo Countywide SSMP is developed.
Capital Improvement Program Screening	Chapter 4.0, Project Identification and Prioritization	City's internal screening database	**Annually.**
Tracking of GI Projects	Chapter 5.0, Project Tracking	City's internal database and public Green Infrastructure map	**As needed (annually at a minimum).**
Tracking of GI Projects	Chapter 5.0, Project Tracking	Chapter 5.0, Project Tracking	**2021**, or when the San Mateo Countywide SSMP is developed.
Guidelines and Specifications	Chapter 6.0, Guidelines and Specifications	GI Guidelines and Standards	**Every 5 years**, the City will reassess the applicability of the Countywide GI Guidelines and Standards and review the potential for updating City-specific standards and details.
Planning Document Updates	Chapter 7.0, Integration with Other Planning Documents	Section 7.6, Future Updates	**2021**, or when planning document modifications are complete.
Funding Options	Chapter 8.0, Funding Options	Section 8.3, Funding Strategies	Revisit **every 5 years** to assess whether funding strategies are adequate.
Outreach and Education	Chapter 9.0, Outreach and Education	Internal outreach and education strategy	Participate at the Countywide level (estimated **2 times per year**) to support outreach and education about GI.
Programs and Policies	Chapter 10.0, Implementation Approach	Standard Operating Procedures, Municipal Code, and Policies	Revisit **every 5 years** to assess whether implementation approach is adequate.

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GREEN INFRASTRUCTURE PLAN APPENDICES

A. Glossary

B. Capital Improvements Program GI Potential Screening Flowcharts

C. GI Project Prioritization Maps

a. Water Resources

b. FEMA 100-yr Flood Plain

c. Sea Level Rise

d. Prioritized Green Streets Projects

e. Prioritized LID and Regional Projects

f. Existing and Potential Green Infrastructure Projects (4 Sheets)

D. Development Review Flowcharts

E. Early Project Implementation Concept Sheets

a. 817 Walnut Street Redevelopment

b. Holly Street / US 101 Interchange and Pedestrian Overcrossing

c. San Carlos Avenue Pedestrian Safety Improvements

d. South Laurel Employee Parking Lot

APPENDIX A: Glossary

Several terms used in this green infrastructure may be unfamiliar to readers. For the reader's convenience, definitions of key terminology have been adapted from various sources in the table below.

Key Term	Definition	References
Bioretention Area	A type of low impact development treatment measure designed to have a surface ponding area that allows for evapotranspiration and filters water through 18 inches of engineered biotreatment soil. After the water filters through the engineered soil, it encounters a 12-inch layer of rock in which an underdrain is typically installed to convey treated water to the storm drain system. Also known as a "Stormwater Planter".	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016) *Green Infrastructure Design Guide* (SMCWPPP 2019b)
Bioswale	See "Bioretention Area".	
Biotreatment	A type of low impact development treatment allowed under Provision C.3.c. of the MRP. Biotreatment areas must be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate and must use biotreatment soil as specified under the MRP (Appendix K of the C.3 Regulated Projects Guide).	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016)
Bulb-outs	Synonymous with "Curb Extension". Bulb-outs are extensions of the curb, gutter, and sidewalk into the roadway, typically located at street crossings such as intersections or mid-block crosswalks. They are a traffic calming and pedestrian safety enhancement measure that reduce the crossing distance for pedestrians. Stormwater curb extensions are curb extensions that incorporate the use of stormwater treatment	*Green Infrastructure Design Guide*

	through the use of stormwater planters or other green infrastructure measures.	(SMCWPPP 2019b)
Complete Streets	A complete street is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Every complete street looks different, according to its context, community preferences, the types of road users, and their needs.	Caltrans Division of Transportation Planning – Office of Smart Mobility and Climate Change
Detention Basin	Detention is the process of providing temporary storage of stormwater runoff in ponds, vaults, bermed areas, or depressed areas to allow treatment by sedimentation and metered discharge of runoff at reduced peak flow rates. In more urban situations, detention can also be provided by using rock filled trenches or suspended paving systems directly adjacent to other treatment measures to allow them to store water and treat it over a longer period.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Directly Connected Impervious Area	The area covered by a building, impermeable pavement, and/or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g., turf buffers).	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016)
Dry Weather Runoff	Runoff that occur during period without rainfall. In a natural setting, dry weather runoff result from precipitation that infiltrates into the soil and slowly moves through the soil to the creek channel. Dry weather runoff in storm drains may result from human activities, such as over-irrigation.	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016)
Evapotranspiration	Evaporating water into the air directly or through plant transpiration.	*C.3 Regulated Projects Guide* - Glossary (SMCWPPP 2016)

Fiscal Year	A fiscal year is twelve consecutive months ending on the last day of any month except December.	IRS.gov
Flow-through Planter Box	*A flow-through planter box is a contained landscape area designed to capture and retain stormwater runoff.* It is fully lined and connected via an underdrain to a stormwater system.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Green Building	Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction.	United States Environmental Protection Agency https://www.epa.gov/land-revitalization/green-buildings (Accessed 6/12/19)
Green Gutters	Green gutters help capture and slow stormwater runoff within very arrow and shallow landscaped areas.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Green Infrastructure	Green infrastructure comprises a range of natural and built approaches to stormwater management–such as rain gardens, bioretention, and permeable paving–that mimic natural systems by cleaning stormwater and letting it absorb back into the ground. Green infrastructure could reduce the amount of runoff that enters the traditional piped stormwater system below ground and could prevent overflows that pollute nearby water bodies.	United States Environmental Protection Agency
Green Roof	Green roofs are landscaped systems placed on rooftops designed to capture rainfall and allow to evaporate back into the air before runoff is created.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Green Streets	Green Streets are defined as streets that maximize permeable surfaces, tree canopy, and landscaping elements in order to divert stormwater from the sewer system; filter and reduce the amount of polluted stormwater entering rivers and streams;	

	increase urban greenspace; improve air quality and reduce ambient air temperature; and improve watershed health. There is some evidence that Green Streets also improve pedestrian and bicycle safety and promote travel by these modes.	
Gray Infrastructure	Gray infrastructure is defined as traditional brick, mortar, and concrete construction to remove stormwater from its source and transport it to a downstream outfall or treatment facility.	Shamsi, U.M., J.W. Schombert, and L.J. Lennon. 2014. *SUSTAIN Applications for Mapping and Modeling Green Stormwater Infrastructure.* Journal of Water Management Modeling C379. doi: 10.14796/JWMM.C379
Groundwater Recharge	Groundwater recharge is the process in which surface flows are stored for a period sufficient for water to percolate into the soil or groundwater table.	Caltrans Willits Bypass Project Mitigation and Monitoring Proposal
Hydromodification	The modification of a stream's hydrograph, caused in general by increases in flows and durations that result when land is developed (e.g., made more impervious). The effects of hydromodification include, but are not limited to, increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding.	NPDES No. CAS612008 Glossary
Impervious Surface	A surface covering or pavement of a developed parcel of land that prevents the land's natural ability to absorb and infiltrate rainfall/stormwater. Impervious surfaces include, but are not limited to, roof tops; walkways; patios; driveways; parking lots; storage areas; impervious concrete and asphalt; and any other continuous watertight pavement or covering. Landscaped soil and pervious pavement, including pavers with pervious openings and seams, underlain with pervious soil or pervious storage	NPDES No. CAS612008 Glossary

	material, such as a gravel layer sufficient to hold at least the C.3.d volume of rainfall runoff are not impervious surfaces. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether a project is a Regulated Project under Provisions C.3.b. and C.3.g. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling and meeting the Hydromodification Standard.	
Infiltration	The process of slowing, filtering, and soaking stormwater runoff into native soil. Greater infiltration can often be achieved, as necessary, by employing a specified biotreatment soil mix and aggregate storage prior to infiltration into native soil.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Infiltration Trench	Infiltration systems are underground facilities and structures designed to collect and temporarily store runoff, such as a gravel filled trench, pipe or vault, and allows the water to infiltrate into surrounding subsurface soils. In some cases, it can include an underdrain.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Low Impact Development (LID)	A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which entails collecting and conveying storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID focuses on using site design and storm water management to maintain the site's pre-development runoff rates and volume. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Municipality	A municipality is a city, county, city and county,	California Air Resources

	special district, a public agency of the State of California, and any department, division, public corporation, or public agency of this State or two or more entities acting jointly, or the duly constituted body of an Indian reservation or rancheria.	Board FAQ
Non-Potable Water Supply	Any water, including reclaimed water, not meeting current potable water standards. Water which is suitable for beneficial uses excluding human consumption. Specifically excluded from this definition is "gray water."	California State Water Resources Control Board – Guidelines for Distribution of Nonpotable Water (1992).
Percolation	Percolation is the internal drainage rate of a substrate (in mm/hr) in the same way that infiltration indicates the capacity to infiltrate water into the surface of the substrate.	Caltrans Office of Stormwater Prevention – Soil Resource Evaluation
Pervious Surface	A natural, landscaped, or permeable hardscape (e.g., turf block, brick, natural stone, cobbles, gravel) that allows surface runoff to infiltrate into underlying soils.	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016)
Polychlorinated Biphenyls	PCBs are a group of man-made organic chemicals consisting of carbon, hydrogen and chlorine atoms. The number of chlorine atoms and their location in a PCB molecule determine many of its physical and chemical properties. PCBs have no known taste or smell, and range in consistency from an oil to a waxy solid. PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until manufacturing was banned in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications.	EPA.gov
Public Right-of-	Public right-of-way is defined as the right of passage	Black's Law Dictionary

Way	held by the public in general to travel on roads, freeways, and other thoroughfares.	1351 (8th ed. 2004).
Reasonable Assurance Analysis (RAA)	From a regulatory perspective, reasonable assurance is defined as the demonstration that the implementation of control measures will, in combination with operation of existing or proposed storm drain system infrastructure and management programs, result in sufficient pollutant reductions over time to meet total maximum daily load (TMDL) wasteload allocations, water quality-based effluent limits (WQBELs), or other water quality targets specified in a municipal separate storm sewer system (MS4) permit1 (United States Environmental Protection Agency [USEPA], 2017). From the perspective of a stakeholder in the watershed who is focused on the improvement of water quality or restoration of a beneficial use of a waterbody, reasonable assurance is the demonstration and a commitment that specific management practices are identified with sufficient detail (and with a schedule for implementation) to establish that necessary improvements in the receiving water quality will occur. From the perspective of an MS4 Permittee, reasonable assurance is a detailed analysis of TMDL wasteload allocations (WLAs), associated permit limitations, and the extent of stormwater management actions needed to achieve TMDL WLAs and address receiving water limitations. RAAs may also assist in evaluating the financial resources needed to meet pollutant reductions based on schedules identified in the permit, TMDL, or stormwater management plan, and in preparing associated capital improvement plans.	BASMAA (Bay Area Stormwater Management Agencies Association). 2017. *Bay Area Reasonable Assurance Analysis Guidance Document.* BASMAA, Oakland, CA.
Rainwater	Rainwater harvesting is defined as a method for	Boers, T. M. *Rainwater*

[1] All references to a permit in this document refer to the 2015 version (MRP 2.0).

Harvesting	inducing, collecting, storing, and conserving local surface runoff for agriculture in arid and semi-arid regions.	*Harvesting in Arid and Semi-Arid Zones*. International Institute for Land Reclamation and Improvement, 1997.
Regulated Projects	Development projects as defined in provision C.3.b.ii	NPDES No. CAS612008 Glossary
Special Projects	Certain types of smart growth, high density and transit oriented development projects that are allowed, under Provision C.3.e.ii of the MRP, to receive LID treatment reductions.	*C.3 Regulated Projects Guide* – Glossary (SMCWPPP 2016)
Sustainable Streets	Sustainable streets are multimodal rights of way designed and operated to create benefits relating to movement, ecology and community that together support a broad sustainability agenda embracing the three E's: environment, equity, and economy.	*Green Infrastructure Design Guide* - Chapter 3 (SMCWPPP 2019b)
Vegetated Swale	Shallow landscaped areas designed to capture, convey, and potentially infiltrate stormwater runoff as it moves downstream.	*Green Infrastructure Design Guide* (SMCWPPP 2019b)
Wasteload Allocation	A portion of a receiving water's TMDL that is allocated to one of its existing or future point sources of pollution.	NPDES No. CAS612008 Glossary
Watershed	A watershed is defined as the area where precipitation drains to a common waterway, such as a stream, lake, estuary, wetland, or the ocean.	Merrick JRW, Parnell GS, Barnett J, Garcia M (2005). *A multiple-objective decision analysis of stakeholder values to identify watershed improvement needs.*

APPENDIX B: Capital Improvements Program GI Potential Screening Flowcharts

Part 1: Initial Screening	
No Potential	**Eliminate from List**
No exterior work (e.g., interior remodel)	
Exterior building upgrades or equipment	
Development or funding of municipal programs	
Technical studies, data collection, or training	
Construction of streetlights and traffic signals	
Minor bridge and culvert repairs/replacement	
Non-stormwater utility projects	
Equipment purchase or maintenance	
Irrigation system installation, upgrades, or repairs	
Too Late to Change	
Project has gone to bid or is under construction	
Project is too far along in design stage to make changes (up to Agency judgment based on schedule and budget considerations)	
Too Early to Assess	**Eliminate from list, but reconsider next FY**
Not enough information to assess project for GI potential	
Maintenance/Minor Construction	**Eliminate from List**
Project is for maintenance purposes only or is minor in nature, and maintains the existing lines, grades, and capacity of the original facility. In addition, the project is not concentrated in one location and includes multiple work orders throughout various locations in the City. For example:	
1. Pavement maintenance/replacement	
2. Sidewalk, curb and gutter repairs	
3. ADA ramps and other improvements	
Project meets the above criteria but includes at least 5,000 SF of impervious surface created or replaced in a single contiguous area.	**Move to Part 2**
All other projects	

Part 2: Assessment of GI Potential	
Project involves: Alternations to existing building's roof drainage New/replaced pavement or drainage structures Concrete work Landscaping, including tree planting Streetscape and intersection improvements	**Move to Part 3**
Project is of these retrofit types: Road Diet Bike/Ped Facilities Pavement Reconstruction Street Beautification Tree Planting Park/Landscaping Retrofit Drainage Reconstruction Parking Lot Building	
Project is a master planning document, such as a Bike/Ped Master Plan, Parks Master Plan, or Storm Drain Master Plan	Assess possibility of integrating green infrastructure into these Master Planning Documents. **Associated individual projects move to Part 3**
Project is subject to C.3 requirements	Project must include GI per Provision C.3 Requirements.
None of the above categories apply	Individually assess for GI Potential. If no potential exists, document why GI is impracticable.

Part 3: Preliminary Design

Step 1: Information Collection / Reconnaissance

- Locate roof leaders and discharge points.
- Look for opportunities to substitute pervious pavements for impervious pavements.
- Identify available landscaped or paved areas adjacent or downgradient from paved or roof areas.
- Locate nearby storm drains.
- Assess potential for infiltration and groundwater depth.
- Assess potential for connection of underdrain (typ. 2-2.5 below bioretention area surface).

Step 2: Preliminary Sizing and Drainage Analysis

- Delineate drainage areas.
- Identify pathways to direct drainage from roof and pavement areas to potential GI facilities.
- Preliminary sizing of GI facilities.

Step 3: Barriers and Conflicts

- Identify barriers and conflicts:
  - Utility conflicts.
  - Property ownership.
  - Availability of water supply for irrigation.
  - Integration of GI features vs. "add-on".
- Presence of barriers or conflicts does not necessarily mean GI is infeasible but may affect cost or public acceptance.

Step 4: Budget and Schedule

- Budget considerations:
  - Sources of funding that might be available for GI.
  - Potential savings achieved by integrating with other planned projects (e.g. bike/ped, beautification, etc.) or reducing cost of "gray" drainage facilities.
- Schedule considerations:
  - Constraints on schedule due to regulatory mandates, grant requirements, etc.
  - Whether schedule allows time for any design changes needed to incorporate GI.
  - Whether schedule allows time to align separate funding for GI features.

Step 5: Results of Assessment

- Does the project have GI potential?
  - Consider results of previous steps.
  - Consider ancillary benefits of GI.
- Does it make sense to include GI in this project, if funding was available for the incremental costs of GI elements?

APPENDIX C: GI Project Prioritization Maps

a. **Water Resources**

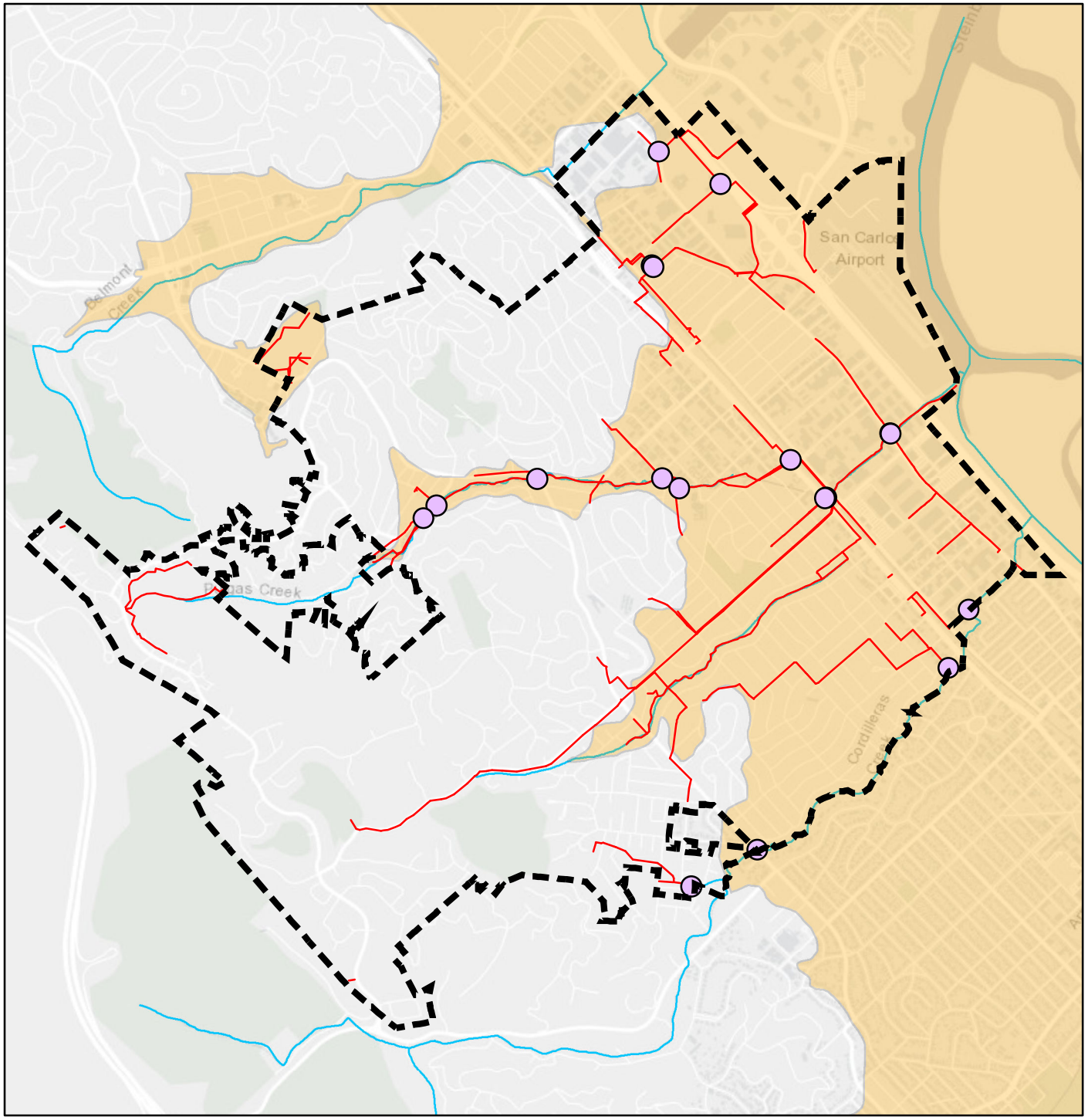
b. **FEMA 100-yr Flood Plain**

c. **Sea Level Rise**

d. **Prioritized Green Streets Projects**

e. **Prioritized LID and Regional Projects**

f. **Existing and Potential Green Infrastructure Projects (4 Sheets)**



City of San Carlos: Water Resources

Legend

- City Boundary
- Streams
- Storm Drain Outfalls [1]
- Storm Drains [1]
- Groundwater Basins [1]

[1]San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2017, February). *Stormwater Resource Plan for San Mateo County.* Prepared by Paradigm Environmental & Larry Walker Associates, Inc. City/County Association of Government, SMCWPPP, Redwood City, CA. http://ccag.ca.gov/srp/

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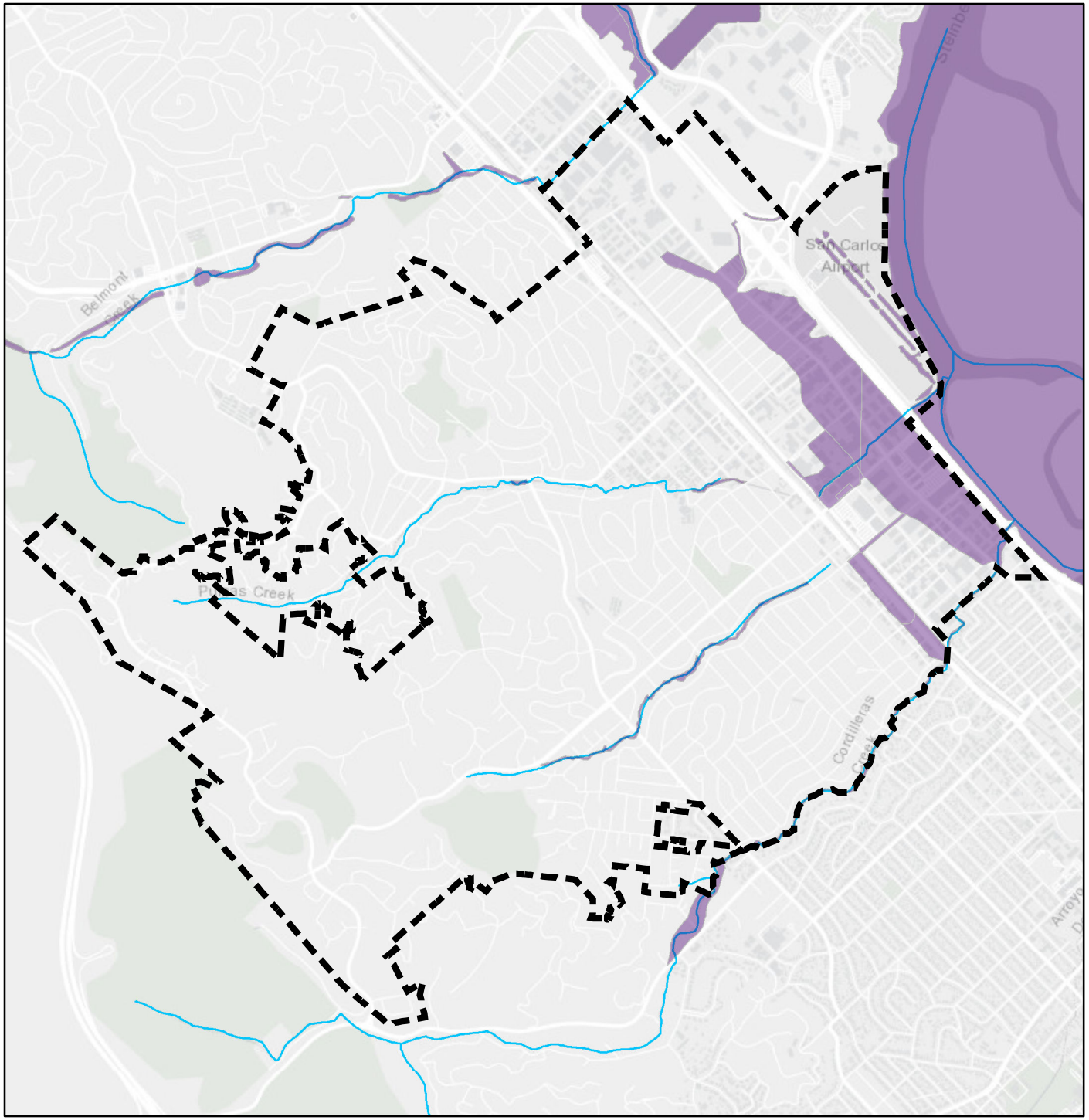

City of San Carlos: FEMA 100-yr Flood Plain

Legend

- City Boundary
- Streams
- FEMA 100-yr Flood Plain[1]

[1]San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2017, February). *Stormwater Resource Plan for San Mateo County*. Prepared by Paradigm Environmental & Larry Walker Associates, Inc. City/County Association of Government, SMCWPPP, Redwood City, CA. http://ccag.ca.gov/srp/

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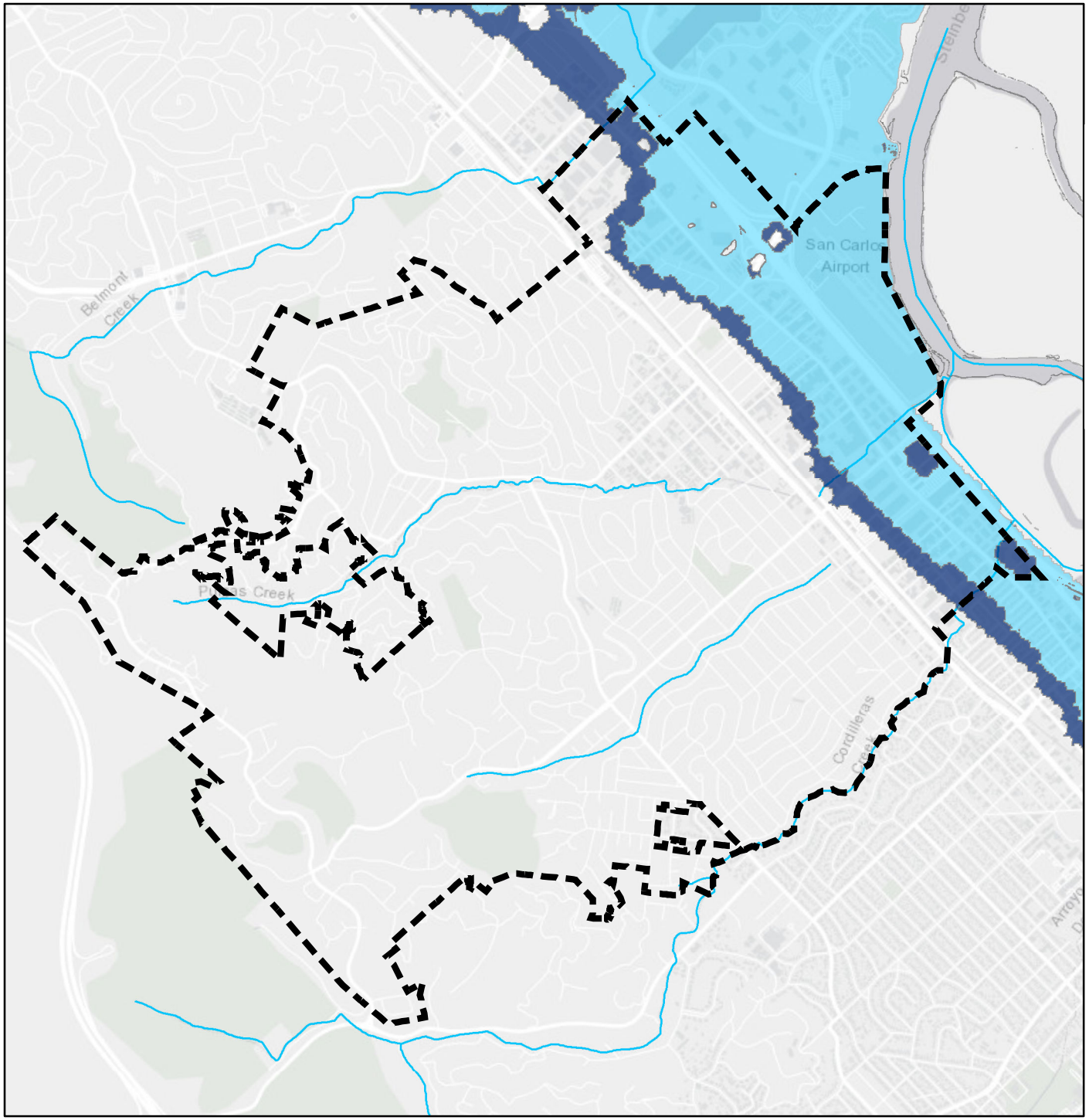

City of San Carlos: Sea Level Rise

Legend

- City Boundary
- Streams
- Sea Level Rise 100 [1]
- Sea Level Rise 200 [1]

[1]San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2017, February). *Stormwater Resource Plan for San Mateo County.* Prepared by Paradigm Environmental & Larry Walker Associates, Inc. City/County Association of Government, SMCWPPP, Redwood City, CA. http://ccag.ca.gov/srp/

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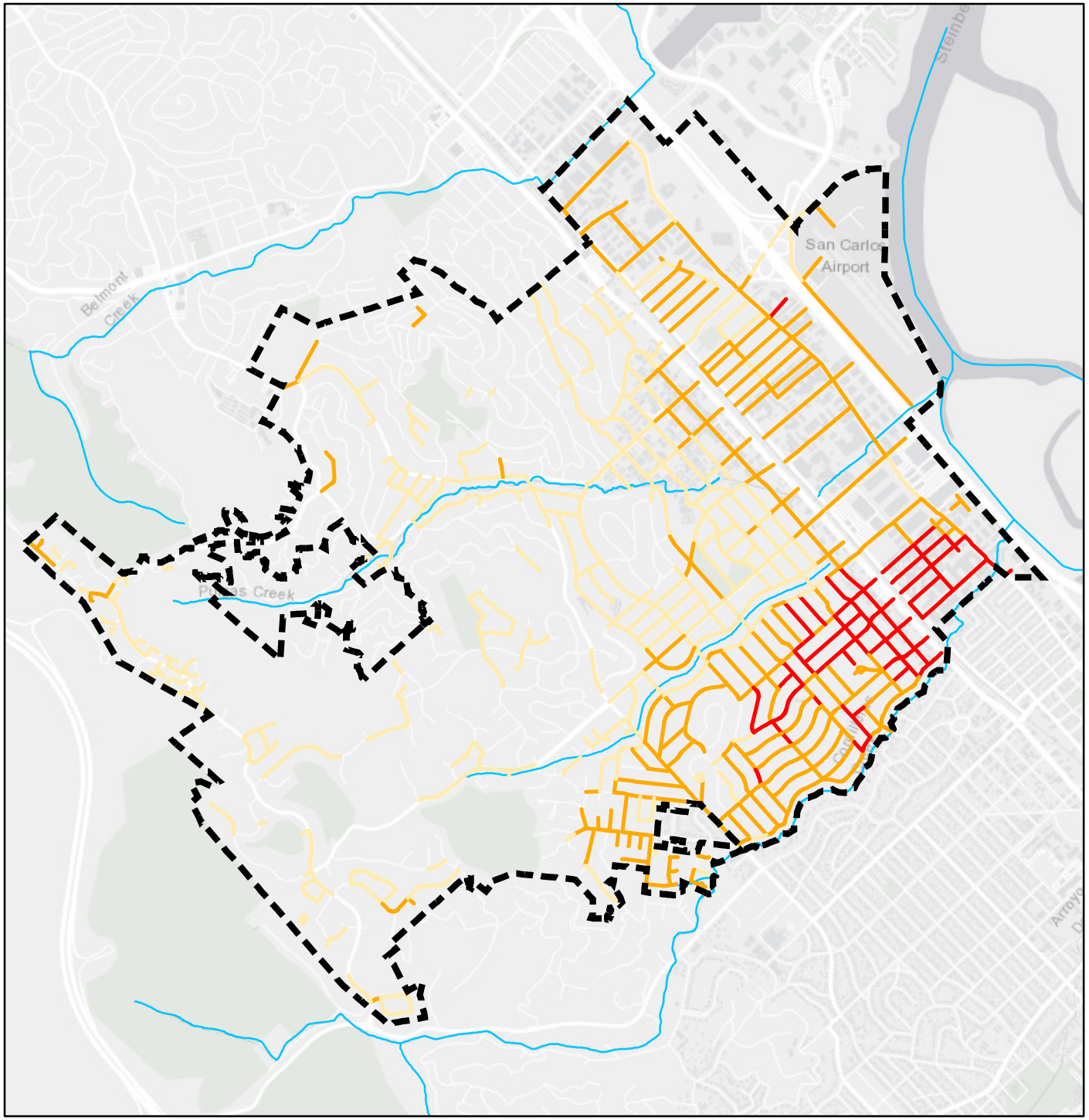

City of San Carlos: Prioritized Green Streets

Legend

- City Boundary
- Streams

Green Streets Prioritized[1]

- Low Priority
- Medium Priority
- High Priority

[1]San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2017, February). *Stormwater Resource Plan for San Mateo County.* Prepared by Paradigm Environmental & Larry Walker Associates, Inc. City/County Association of Government, SMCWPPP, Redwood City, CA. http://ccag.ca.gov/srp/

Note: The Stormwater Resource Plan for San Mateo County identified and prioritized green streets based on screening and prioritization criteria applied Countywide. This data will be further reviewed, refined, and added to as the Green Infrastructure Program develops with agency-specific knowledge. Part of this refinement effort will take place through the Sustainable Streets Master Plan (estimated 2021 completion).

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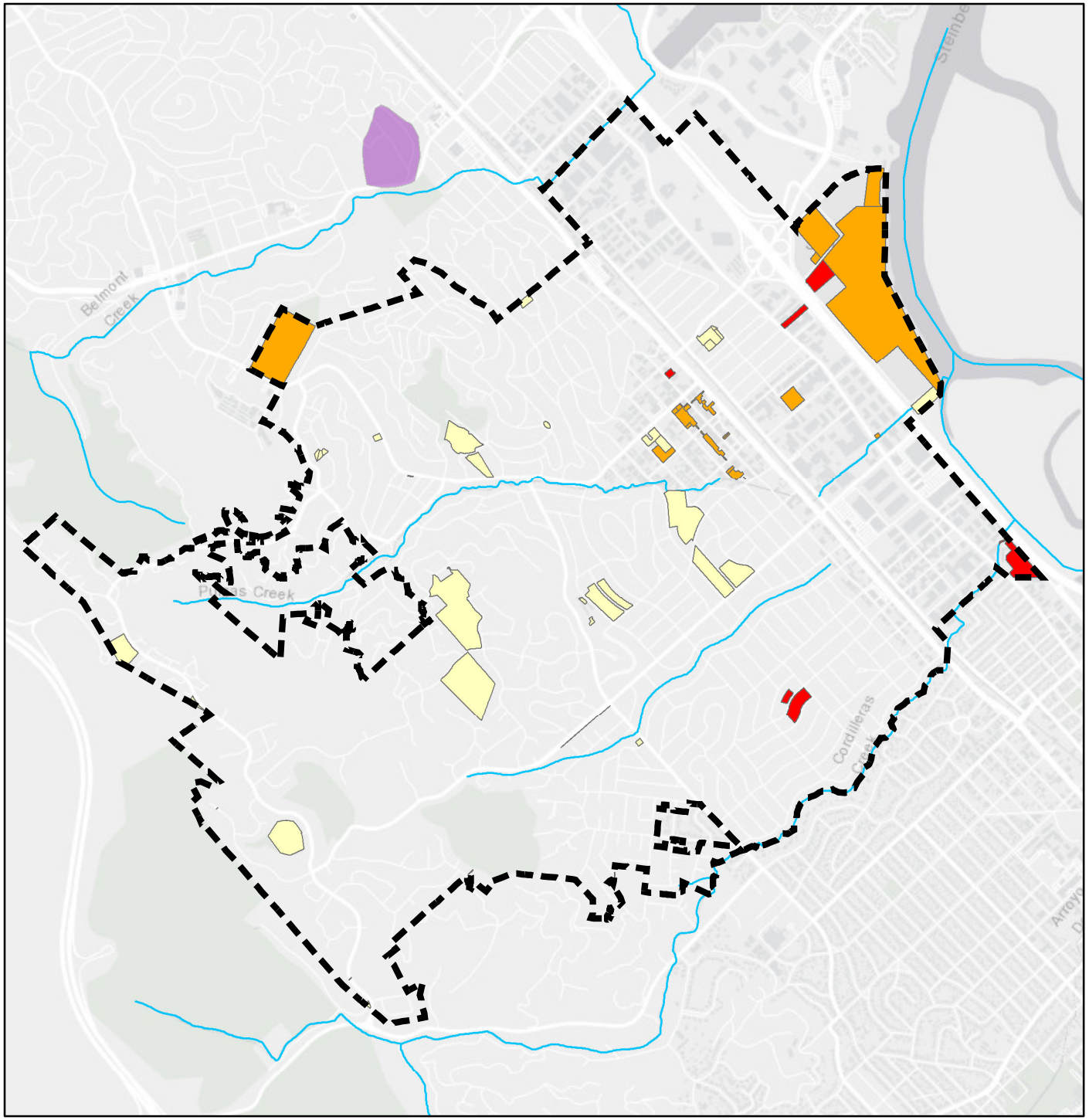

City of San Carlos: Prioritized LID and Regional Projects

Legend

- City Boundary
- Streams

LID Projects Prioritized [1]

- Low Priority
- Medium Priority
- High Priority
- Regional Project Drainage Areas

[1]San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2017, February). *Stormwater Resource Plan for San Mateo County.* Prepared by Paradigm Environmental & Larry Walker Associates, Inc. City/County Association of Government, SMCWPPP, Redwood City, CA. http://ccag.ca.gov/srp/

Note: The Stormwater Resource Plan for San Mateo County identified and prioritized low impact development (LID) and Regional Projects based on screening and prioritization criteria applied Countywide. This data will be further reviewed, refined, and added to as the Green Infrastructure Program develops with agency-specific knowledge. Part of this refinement effort will take place through the Sustainable Streets Master Plan (estimated 2021 completion).

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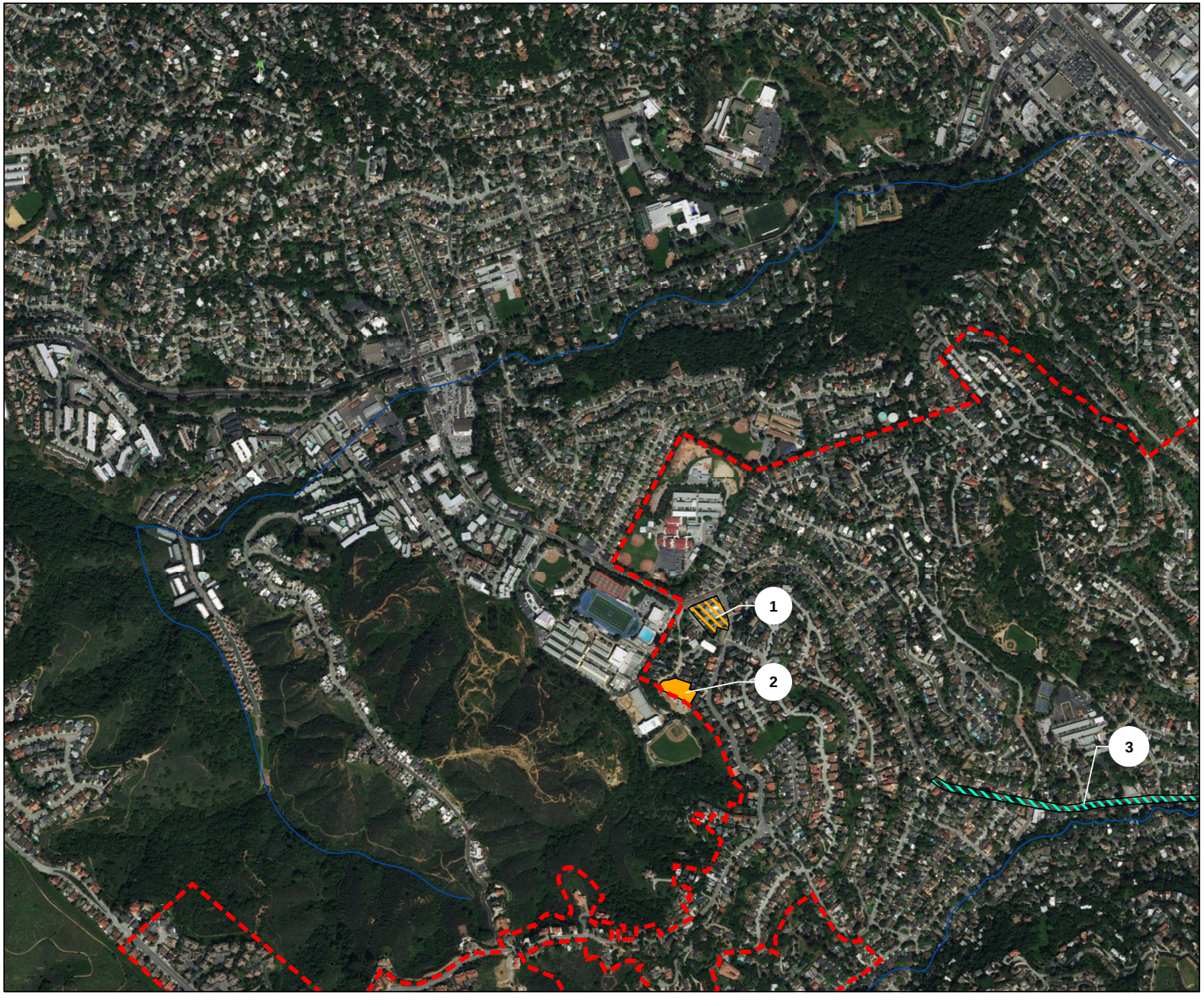

City of San Carlos Green Infrastructure

No.	Project (A1)
1	Gateway San Carlos
2	17 Cranfield Avenue
3	San Carlos Avenue Pedestrian Safety Improvements

Legend

- City Boundary
- Streams
- Private, Existing
- Private, Potential
- Public, Existing
- Public, Potential

N

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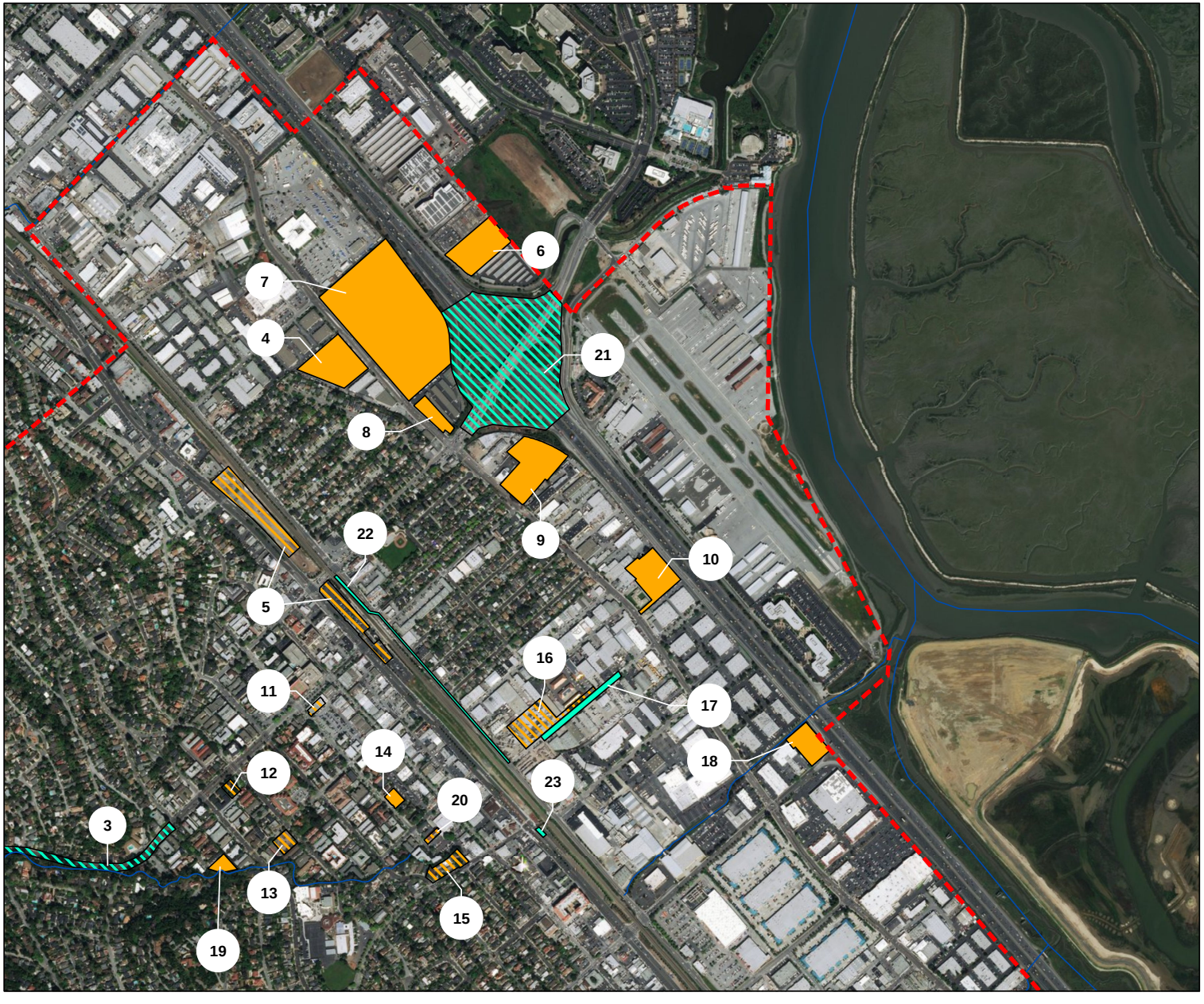

City of San Carlos Green Infrastructure

No.	Project (A2)
3	San Carlos Avenue Pedestrian Safety Improvements
4	Orchard Supply
5	Transit Village
6	Lyngso
7	Palo Alto Medical Facility
8	In-N-Out Burger
9	Landmark Hotel
10	Honda Dealership
11	Wheleler Plaza
12	1525 San Carlos Avenue
13	1501 Cherry Street
14	Walnut Street Condominiums
15	Arroyo Development
16	Cemex
17	Bransten Road Green Street Project
18	985 Industrial Road
19	Mirabel Place
20	817 Walnut Street Redevelopment
21	Holly Street/US 101 Interchange and Pedestrian Overcrossing Project
22	Old County Road Bioretention Areas
23	El Camino Real/Arroyo Bioretention Area

Legend

- City Boundary
- Streams
- Private, Existing
- Private, Potential
- Public, Existing
- Public, Potential

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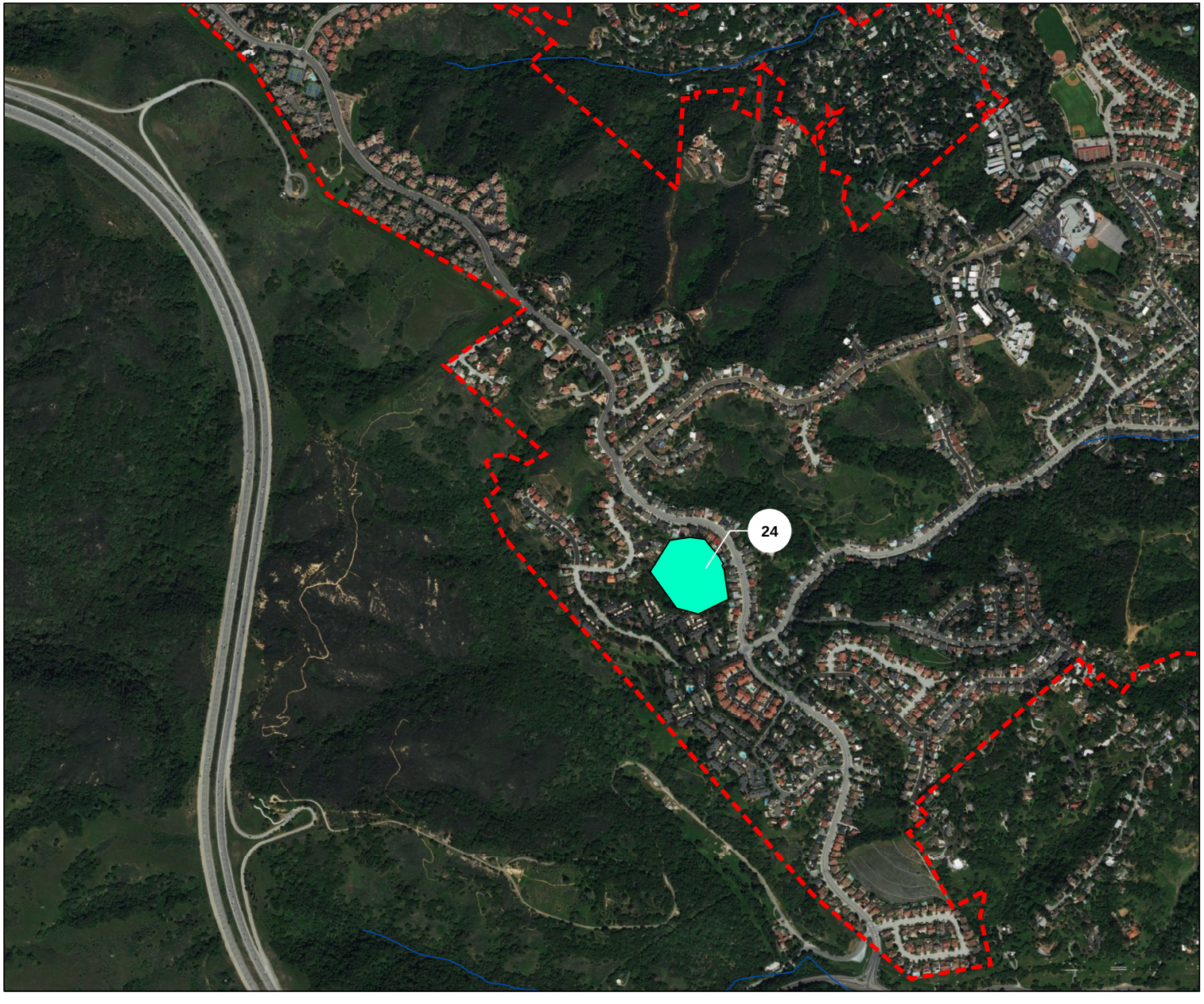
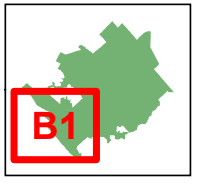


City of San Carlos Green Infrastructure

No.	Project (Map 3 of 4)
24	Crestview Park

Legend

- City Boundary
- Streams
- Private, Existing
- Private, Potential
- Public, Existing
- Public, Potential



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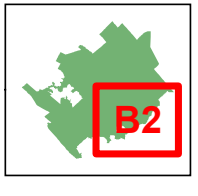
City of San Carlos Green Infrastructure

No.	Project (Map 4 of 4)
25	Burton Park Phase II
26	South Laurel Employee Parking Lot on El Camino Real

Legend

- City Boundary
- Streams
- Private, Existing
- Private, Potential
- Public, Existing
- Public, Potential



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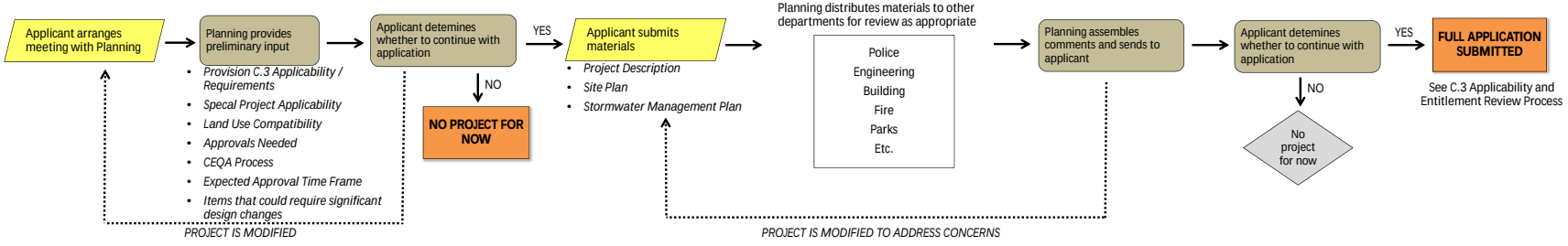
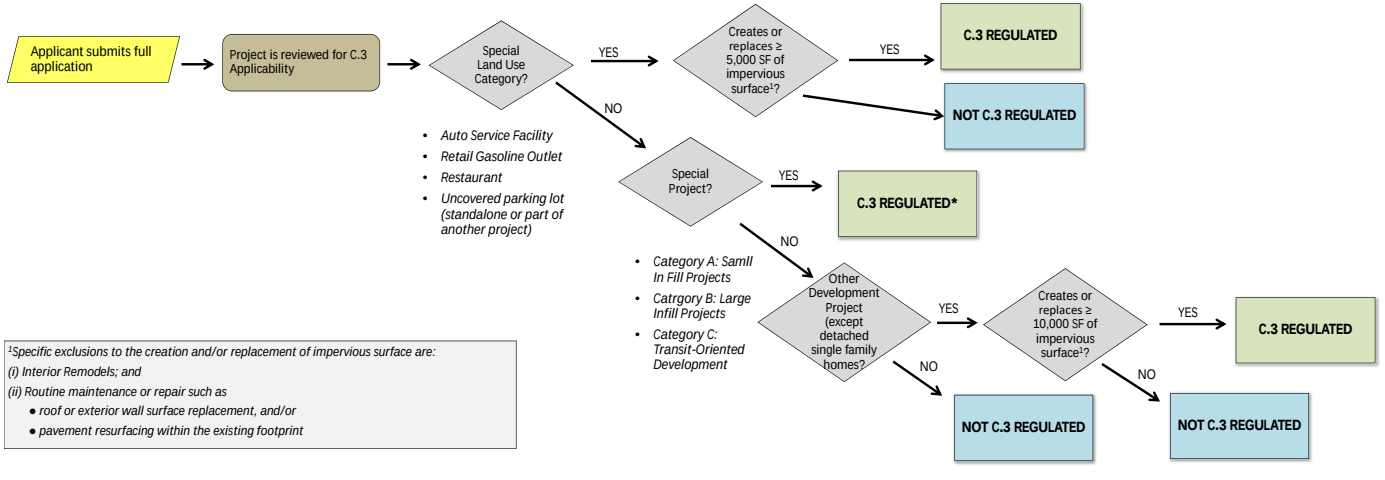
APPENDIX D: Development Review Flowcharts

DEVELOPMENT REVIEW PROCESS

Entitlement Pre-Application Review



Development and Redevelopment C.3 Applicability Review



[1]*Specific exclusions to the creation and/or replacement of impervious surface are:*
(i) Interior Remodels; and
(ii) Routine maintenance or repair such as
- *roof or exterior wall surface replacement, and/or*
- *pavement resurfacing within the existing footprint*

C.3 REGULATED PROJECT MEASURES

Applicant to complete the "C.3 and C.6 Development Review Checklist", and select appropriate:

- *Site Design Measures*
- *Source Control Measures*
- *Construction Best Management Practices*
- *Stormwater Treatment Measures*
- *Hydromodification Management Controls (if applicable)*

*Special Projects need to complete the Special Projects Worksheet

- Special Projects may be allowed to use non-lid treatment for 100% of the C.3.d amount of runoff

NON-C.3 REGULATED PROJECT MEASURES

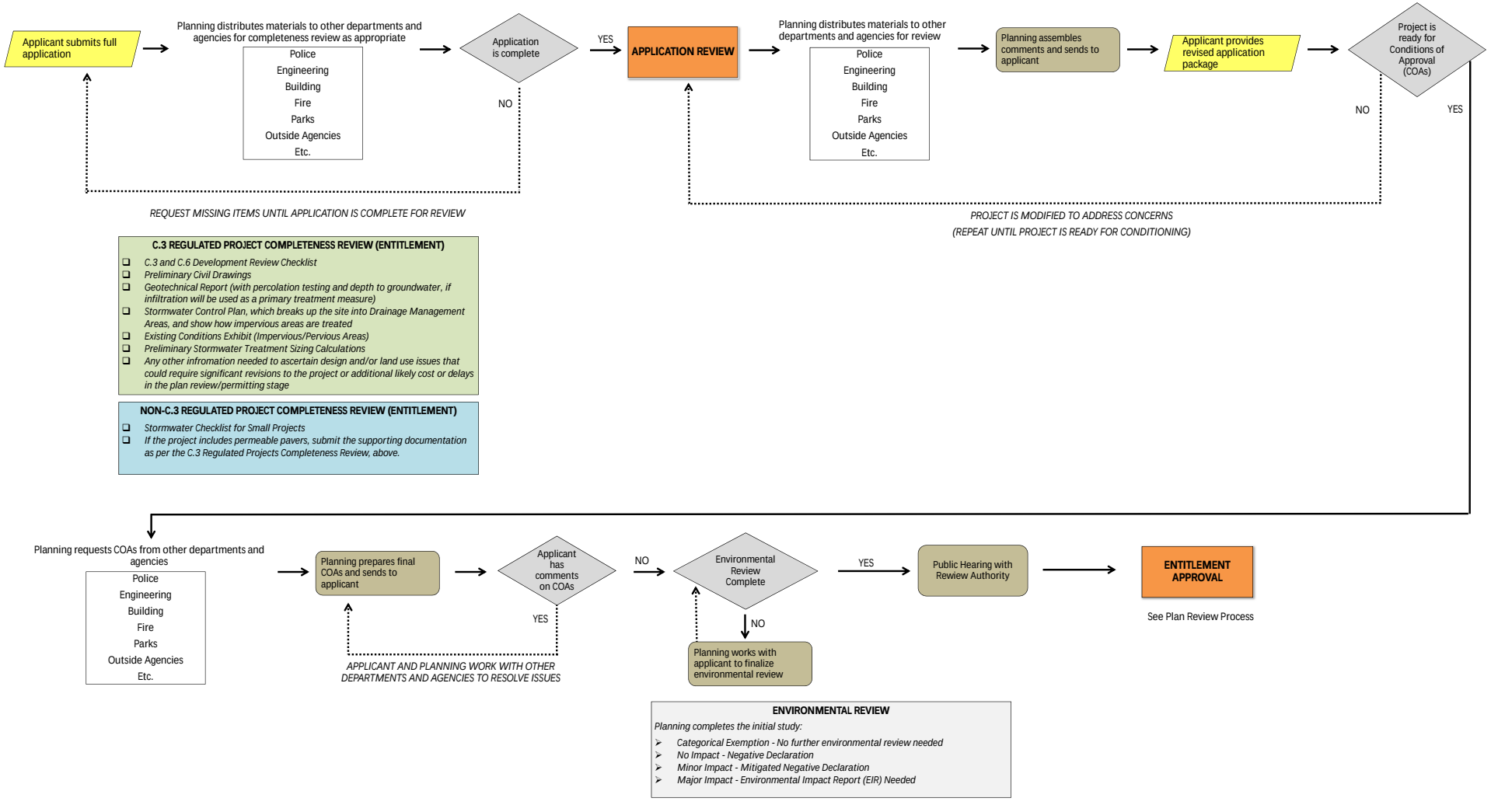
Applicant to complete the "Stormwater Checklist for Small Projects", and select appropriate:

- *Site Design Measures**
- *Source Control Measures*
- *Construction Best Management Practices*

**One or more site design measures are required for projects that create and/or replace 2,500 square feet or more of impervious surface. Otherwise, these measures are optional.*

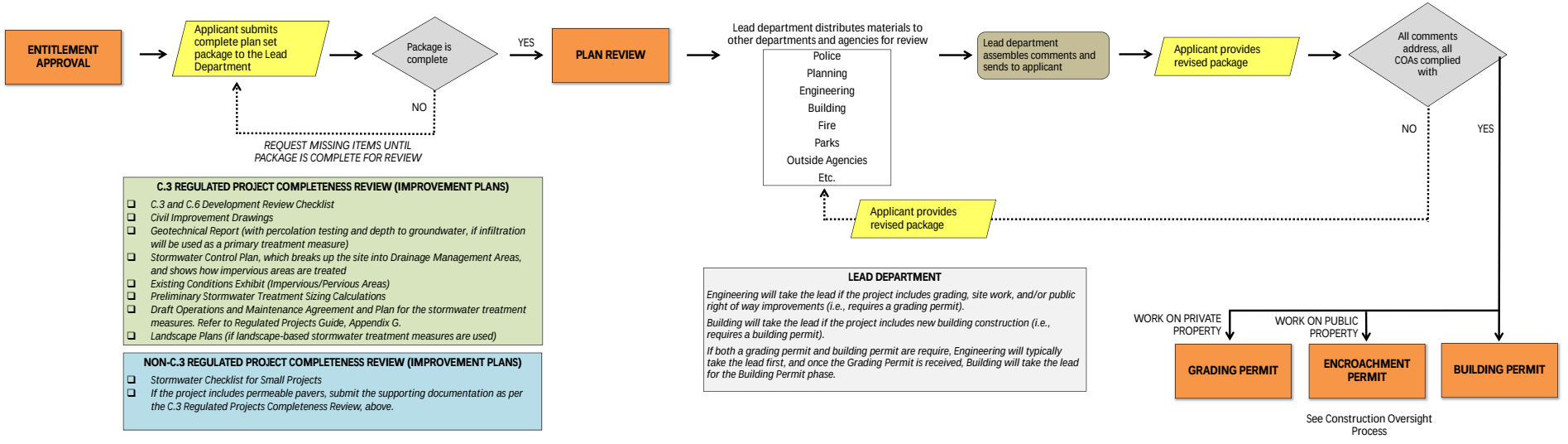
DEVELOPMENT REVIEW PROCESS

Entitlement Review

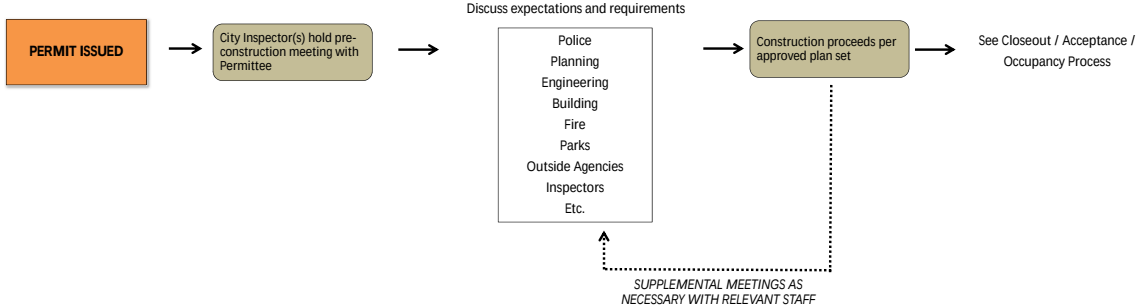


DEVELOPMENT REVIEW PROCESS

Plan Review



Construction Oversight



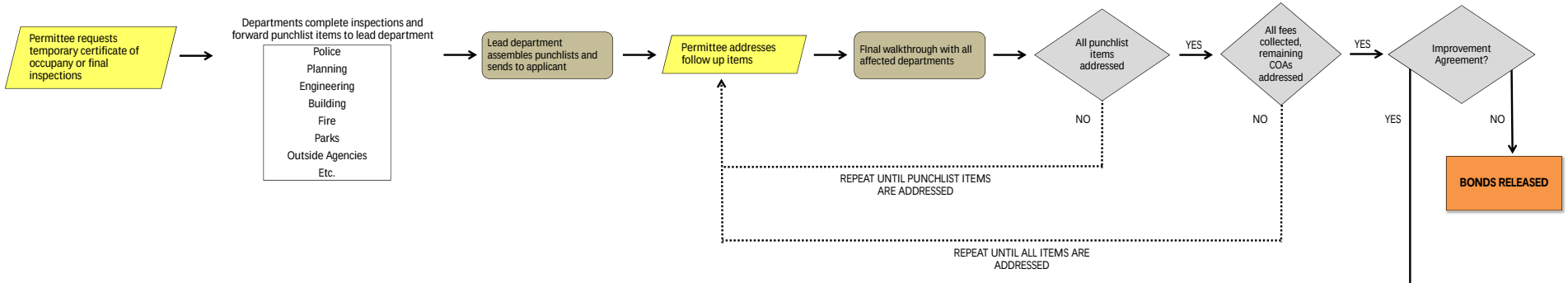
IN-PROGRESS C.3 REGULATED PROJECT INSPECTIONS

In-progress inspections of stormwater treatment measures are optional under the Municipal Regional Stormwater NPDES Permit (MRP), though are recommended to ensure the measures are constructed in accordance with the approved plan set. Any issues identified can be corrected in a timely fashion, well before project closeout. Inspections should occur at several stages of construction, for example:

- *Subgrade preparation*
- *Placement of material layers (filter fabric, subbase, base, soil, etc.)*
- *Installation of storm drain piping and structures*
- *Reinforcing steel and concrete formwork placement (if applicable)*
- *Installation of irrigation and planting*
- *After final landscaping*

DEVELOPMENT REVIEW PROCESS

Closeout / Acceptance / Occupancy



C.3 REGULATED PROJECT PUNCHLIST ITEMS

- ❑ *Final inspection performed for stormwater treatment measures and hydromodification management measures and found all measures to be constructed per plans and fully operational, with no observed issues*
- ❑ *As-built plans which fully reflect the field conditions*
- ❑ *Operations and Maintenance (O&M) Agreement, per local standards, has been reviewed and recorded*
- ❑ *O&M Plan, per Appendix G of the Regulated Projects Guide and local standards, has been reviewed and attached to the O&M Agreement*

NON-C.3 REGULATED PROJECT PUNCHLIST ITEMS

- ❑ *As-built plans which fully reflect the field conditions*
- ❑ *If the project includes permeable pavers, submit the C.3 Regulated Projects Punchlist Items, above.*

APPENDIX E: Early Project Implementation Concept Sheets

a. **817 Walnut Street Redevelopment**

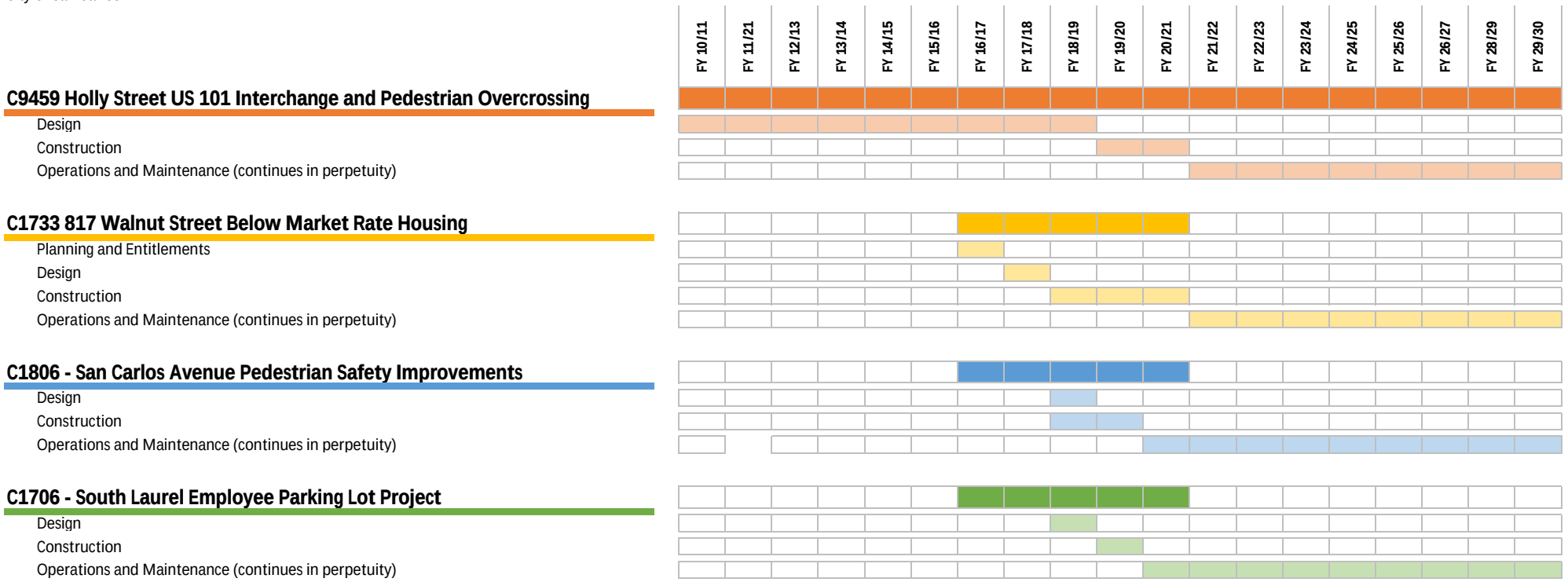
b. **Holly Street / US 101 Interchange and Pedestrian Overcrossing**

c. **San Carlos Avenue Pedestrian Safety Improvements**

d. **South Laurel Employee Parking Lot**

DRAFT SCHEDULE FOR PRIORITIZED GREEN INFRASTRUCTURE PROJECTS

City of San Carlos



Prioritized Project: C1733 - 817 Walnut Street Redevelopment

Image Source: Google Earth (2018)

Site Information:

Location	817 Walnut Street San Carlos, CA 94070
Capture Area (acres)	To be determined
Impervious Area (%)	To be determined
Possible GI Measures	To be determined

Project Schedule:

Work began in July 2016, and the projected completion date is FY 20/21. The planning and entitlements phase of the project is anticipated to take one year. Bidding, contractor selection, and construction will take 18 to 36 months.

Project Description:

This project involves designing, financing, and constructing a multi-family affordable housing development on City-owned property at 817 Walnut Street. The FY 2016-17 Low Moderate Income Housing Asset Fund Professional Services budget will allow the City to proceed with design and predevelopment work at the site. This project helps to facilitate the construction of affordable housing using the City's affordable housing impact fees.

With this project, the City intends to enter into a joint venture with a non-profit affordable housing developer. Once a development impact agreement is executed, the future impact on the operating budget will be known. Currently, $4 million has been allocated to this project.

When this project is designed, the City will review the potential incorporation of green infrastructure measures, such as bioretention areas.

Prioritized Project: C9459 - Holly Street / US 101 Interchange and Pedestrian Overcrossing

Image Source: Google Earth (2018)

Site Information:

Location	Holly Street & 101 Interchange San Carlos, CA 94070
Capture Area (acres)	To be determined
Impervious Area (%)	To be determined
Possible GI Measures	The project includes four bioretention areas.

Project Schedule:

The duration of this project is estimated to be 10 years. The design, environmental, and permitting phases for this project began in July 2010, and the projected completion date is June 2021.

Project Description:

This project is located at the US 101 interchange on Holly Street. This project includes environmental clearance, design, right-of-way acquisition, construction management and Caltrans oversight of the Route 101/Holly Street Interchange modifications. A new, grade-separated multi-purpose path will be constructed between pedestrian and bicyclists and vehicles. The proposed pedestrian overcrossing would be constructed approximately 430 feet south of the existing US 101 / Holly Street interchange, within existing Caltrans right-of-way. The project area includes the southern portion of the interchange. Modifications at Industrial Road and Holly Street will also be necessary, such as roadway widening to accommodate an additional northbound lane.

The primary purposes of the project are to (1) provide a continuous path to improve pedestrian and bicycle east-west connectivity across US 101, and (2) provide a safer and more enjoyable alternative for crossing US 101 for pedestrians and bicycles who want to avoid multiple vehicle conflict points at the on- and off-ramps.

The estimated project cost is $34.5 million, and the project design is 95% complete. The project has various funding sources, including a traffic mitigation fee, Measure A, Bike Path Program Funding, BPIP Grant/CCAG, TDA Article 3, ATP Grant, BAAQ Bike/Ped Grant, SA Bonds Proceeds, Donations, and Reserve FIR.

Prioritized Project: C1806 – San Carlos Avenue Pedestrian Safety Improvements

Image Source: Google Earth (2018)

Site Information:

Location	San Carlos Avenue from Beverly Drive to Prospect Street San Carlos, CA 94070
Capture Area (acres)	To be determined
Impervious Area (%)	To be determined
Possible GI Measures	The project will likely include bioretention areas.

Project Schedule:

The duration of this project is projected to be 2 years. The design phase began in July of 2018. Construction is projected to be complete in June of 2020.

Project Description:

The San Carlos Avenue Pedestrian Safety Improvement Plan recommends sidewalk installation and intersection improvements from Beverly Drive to Prospect Street. Phase 1 of the improvements will include sidewalk installations from Arundel School to Prospect Street as well as new traffic signal installations on Phelps Road. The project will likely include bioretention areas. For example, bioretention areas can be integrated with pedestrian improvements at intersections in the form of stormwater curb extensions.

The project aligns with Council's strategic goal of improving public safety along San Carlos Avenue. Staff was successful in obtaining a $1,000,000 grant from the San Mateo County Transportation Authority for construction of Phase 1 of the project. Future phases of the project will be developed at a later date. Funding is requested to be transferred from the C1724 Traffic Safety Assessment and Improvement. The grant funding for this project will expire by Fiscal Year 2019-20.

Prioritized Project: C1706 – South Laurel Employee Parking Lot Project

Image Source: Google Earth (2018)

Site Information:

Location	El Camino Real, between Belmont Avenue and White Oak Way San Carlos, CA 94070
Capture Area (SF)	8,000
Impervious Area (%)	100%
Possible GI Measures	The project will likely include four bioretention areas.

Project Schedule:

The project was originally anticipated to be completed in 2017, but the project design period has continued through 2019, and there is an opportunity to incorporate green infrastructure measures in the project.

Project Description:

This project will fund the construction of a parking lot on the east side of El Camino Real south of Howard Avenue. This land is currently owned by SamTrans, and the City is negotiating a lease of the property for the parking lot. The project will provide employee parking and help to improve parking conditions downtown and in the South Walnut neighborhood. The project is funded through the General Fund and Capital Project Fund.

APPENDIX B

C.4.b.iii

POTENTIAL FACILIITIES LIST

Account number	Account name	account address	Business type	Priority
	San Carlos Airport	620 Airport	Airport	H
15228	JATO AVIATION	620 AIRPORT WAY STE 8	Airport Services	M
10366	DIAMOND AVIATION	620 AIRPORT WAY STE 5	Airport Services	M
16124	SAN CARLOS AVIATION & SUPPLY LLC	620 AIRPORT WAY STE 9	Misc Retail	L
15517	SKY KITCHEN INC	620 AIRPORT WAY	Restaurant	M
16344	MSP FABRICATION	827 CHERRY LN	Fabrication	M
11906	CRAFTED BY GORDON	833 CHERRY LN	Manufacturing Ind Not Classifi	M
11071	R & R RAINGUTTERS INC	810 E SAN CARLOS AVE S	Contractor In Town	L
13822	ABOVE ALL ROOFING SERVICES	810 E SAN CARLOS AVE S	Roofing, Siding	L
12863	PIONEER MILLWORK INC	835 E SAN CARLOS AVE	Woodworking	L
12917	ROUNTREE SHEET METAL INC	931 E SAN CARLOS AVE	Contractor In Town	L
12507	MOBILITY EQUIPMENT INC	955 E SAN CARLOS AVE	Med,Dent,Hosp Equip / Supplies	L
18797	BAY AREA ETC	973 E SAN CARLOS AVE	Non Profit Org/Charities	L
10850	CD GOURMET INC DBA HORIZON FOODS	973 E SAN CARLOS AVE	Nondurable Goods Not Classifi	L
11691	JERRY CARROLL MACHINING	993 E SAN CARLOS AVE	Manufacturing	M
17144	E L S SHOWER DOOR	1035 E SAN CARLOS AVE	Glass & Glazing Work	L
11681	HOLLY PETROLEUM INC	907 HOLLY ST	Grocery Store	H
15571	EMELINA'S PERUVIAN RESTAURANT	1065 HOLLY ST	Restaurant	H
17899	PHO VINH, INC.	1065 HOLLY ST STE A	Restaurant	M
14158	EL MAGUEY TAQUERIA	1065 HOLLY ST STE B	Restaurant	M
26	BAY AREA CUSTOM HOMES INC	611 INDUSTRIAL RD	Contractor In Town	H
20371	GO2 & COMPANY	611 INDUSTRIAL RD	AUTOMATIC VENDING MACHINE	M
11169	BELL PLUMBING OF SAN MATEO INC	611 INDUSTRIAL RD STE	Contractor In Town	L
12797	MIDLAND CABINET COMPANY, INC.	719 INDUSTRIAL RD	Wood Kitchens Cabinets	L
12488	EGAN PLUMBING, INC.	725 INDUSTRIAL RD # A	Plumbing, Heat, A/C	L
16526	CURIOX BIOSYSTEMS INC	735 INDUSTRIAL RD STE	Sales	L
18429	OTTO LANDSCAPES	401 OLD COUNTY RD	Landscaping	L
16854	BEN JOHNSON AUTOMOTIVE	501 OLD COUNTY RD STE	Repair Services	M
13307	HEATING SUPPLY COMPANY OF SPOKANE	535 OLD COUNTY RD STE	Wholesale	L

Account number	Account name	account address	Business type	Priority
10687	STAGERS	607 OLD COUNTY RD	Misc Business Services	L
11303	GRAND TILE AND CABINET	615 OLD COUNTY RD	Restoration (Auto/House/Furn)	L
16760	PACE SUPPLY CORP	1691 BAYPORT AVE	Wholesale	L
10786	K & L	920 BING ST	Misc Retail	L
11903	COMMERCIAL SYSTEMS	1000 BING ST	Contractor In Town	L
17561	SECOND HARVEST FOOD BANK	1051 BING ST	Non Profit Org/Charities	L
13983	LUXURY DETAIL	912 CENTER ST	Auto Detail/Repair/Supplies	M
13100	STICKS-N-STONES	947 CENTER ST	Cut Stone & Stone Products	L
12464	DOBEL CONSTRUCTION INC	948 CENTER ST	Contractor In Town	L
11443	SFO REPRESENTATIVES	952 CENTER ST	Misc Retail	L
15940	HY-TECH PLATING	1014 CENTER ST	Fabricated Metal Products	H
16848	PLACEMAKERS INC	1062 CENTER ST	Contractor In Town	L
11521	EXTENDED STAY AMERICA #9609	3 CIRCLE STAR WAY	Hotel	L
12288	AVENUE AUTO SERVICE	1600 INDUSTRIAL RD	Auto Detail/Repair/Supplies	H
15358	SHUTTERFLY INC.	1664 INDUSTRIAL RD	Equipment Rental	L
16271	KC INTERIOR SUPPLIES LLC	1669 INDUSTRIAL RD	Misc Retail	L
20027	YOUNG'S AUTO SUPPLY CENTER LLC	1669 INDUSTRIAL RD	Auto Parts	M
11162	DOMENICO WINERY	1697 INDUSTRIAL RD	Manufacturing	H
15425	PENINSULA PETROLEUM LLC	1710 INDUSTRIAL RD	Wholesale	L
11807	PAPACHAY PERUVIAN COFFEE	1431 OLD COUNTY RD	Coffee Shop	H
11954	GENTRY CONSTRUCTION INC	1523 OLD COUNTY RD	Contractor In Town	L
10861	FASTENAL COMPANY	1645 OLD COUNTY RD	Misc Retail	L
17159	MORALES FINE CARPENTRY	1651 OLD COUNTY RD	Carpentry Work	L
10043	HEICK SUPPLY DIV OF HAJOCA	1025 VARIAN ST	Plumbing/ Heating Equip. Suppl	L
11822	PROVENCE STONE INC	1040 VARIAN ST	Masonry, Stone Setting	M
13296	CLASSIC COACHMAN	1080 VARIAN ST	Auto Detail/Repair/Supplies	M
17952	LEVEL 3 COMMUNICATIONS LLC	800 WASHINGTON ST	Telecommunication	M
16335	CRESTA FINE CABINETRY	904 WASHINGTON ST	Custom Cabinet Shop	L
10343	DENNCO PLUMBING	912 WASHINGTON ST	Plumbing, Heat, A/C	L
17657	FLYING SUITCASE WINES	915 WASHINGTON ST	Winery	L
17722	RUSSIAN RIDGE WINERY	919 WASHINGTON ST	Winery	H
11100	STERLING WOODCRAFT	926 WASHINGTON ST	Mfg Millwork	L
12041	SAN CARLOS RESTAURANT SUPPLY / KITAMI	929 WASHINGTON ST	R&W / Contractor In Town	L
12728	KITAMI	929 WASHINGTON ST	Contractor In Town	L
17009	DEVILSCANYON BREWING CO	935 WASHINGTON ST	Manufacturing	H
12670	INTERMOUNTAIN ELECTRIC CO	947 WASHINGTON ST	Electric Work	L
11280	WINDRUSH EVOLUTIONS INC	952 WASHINGTON ST # A	Misc Business Services	L

Account number	Account name	account address	Business type	Priority
11268	THOMAS LIGHTING COMPANY, INC.	953 WASHINGTON ST	Wholesale	L
16801	INNOVATE PRODUCT INC	961 WASHINGTON ST	Plumbing/ Heating Equip. Suppl	L
16802	ZIN J J ENTERPRISES INC	961 WASHINGTON ST	Plumbing/ Heating Equip. Suppl	L
10677	S & G PLUMBING, INC.	961 WASHINGTON ST # A	Plumbing, Heat, A/C	L
10032	FAB-MOR PRECISION	1029 WASHINGTON ST	Fabrication	M
16176	NOR CAL CONSTRUCTION & EXCAVATING	1030 WASHINGTON ST	Contractor In Town	L
10856	DURHAM SCHOOL SERVICE LP	917 BRANSTEN RD	Transportation Services	H
17725	A-1 MATERIALS INC	941 BRANSTEN RD	Construction Supply	H
12567	G-C LUBRICANTS CO	977 BRANSTEN RD	Manufacturing Ind Not Classifi	H
15930	GALLEHER CORPORATION	930 COMMERCIAL ST # E	Wholesale	L
17938	BACK NINE GREENS INC	940 COMMERCIAL ST STE	Landscaping	L
20622	DUCKS AND DRAGONS BAKERY	940 COMMERCIAL ST STE	BAKERY/COFFEE SHOPS	M
18743	VST SC, LLC	1000 COMMERCIAL ST	Fabrication / Manufacturing	H
14667	THE CLOSET FACTORY	1000 COMMERCIAL ST S	Manufacturing	H
18906	PECO CONTROLS CORPORATION	1050 COMMERCIAL ST	Manufacturing	L
12721	KELLY-MOORE PAINT CO INC	1075 COMMERCIAL ST	Paint/ Glass/ Wallpaper Stores	H
12221	A+ JAPANESE AUTO REPAIR INC	780 INDUSTRIAL RD	Auto Detail/Repair/Supplies	H
16764	A E ASSOCIATES INC	790 INDUSTRIAL RD	Repair Services	M
14389	3COR MEDICAL INC	837 INDUSTRIAL RD STE	Med,Dent,Hosp Equip / Supplies	L
12092	**UNIVERSAL DEVELOPING, INC.**	871 INDUSTRIAL RD STE	Contractor In Town	L
11340	CALCHEMIST	871 INDUSTRIAL RD STE	Research And Development	L
13776	BEHRENS & CURRY, INC.	887 INDUSTRIAL RD STE	Contractor In Town	L
18165	FITZPATRICK & SONS GEN CONT INC	900 INDUSTRIAL RD	Contractor In Town	L
	JUNK KING	969 INDUSTRIAL RD		L
15021	SPARKY'S HOT ROD GARAGE	975 INDUSTRIAL RD STE	Misc Business Services	L
13235	GO TO CHOCOLATE, LLC	765 OLD COUNTY RD	Wholesale	L
14324	EMERGENCY BBQ COMPANY DELI-Q-TESSEN	765 OLD COUNTY RD STE	Restaurant	H
11659	R J POLLOCK CONCRETE SERVICE	765 OLD COUNTY RD STE	Contractor In Town	L
20282	EXTRAVAGANCE IRON WORKS	765 OLD COUNTY RD STE	Fabricated Metal Products	M
12497	EMERGENCY SERVICES RESTORATION	765 OLD COUNTY RD STE	Misc Business Services	L
12943	SAN CARLOS SUPPLY & GARDEN CENTER	803 OLD COUNTY RD	Landscaping	L
18783	DANNYS SHOP RENT	841 OLD COUNTY RD	Misc Business Services	L

Account number	Account name	account address	Business type	Priority
10126	PENINSULA PET RESORT INC	851 OLD COUNTY RD # B	Pet Services	L
12595	CANYON WOODWORKS INC	915 TANKLAGE RD	Custom Cabinet Shop	L
13112	**WALLCOVERING DESIGNS**	925 TANKLAGE RD STE A	Contractor In Town	L
16975	**ALLWOOD CONSTRUCTION INC**	925 TANKLAGE RD STE C	Contractor In Town	L
12999	TANKLAGE CONSTRUCTION CO	1025 TANKLAGE RD STE	Contractor In Town	L
12395	CALIFORNIA VINEYARDS INC	1025 TANKLAGE RD STE	Misc Business Services	L
12055	PERFORMEX MACHINING, INC.	963 TERMINAL WAY	Manufacturing	H
20194	PROPER SIGN COMPANY	801 AMERICAN ST STE F	SIGNS INSTALL/DESIGN	M
12664	INDUSTRIAL PLATING CO INC	803 AMERICAN ST	Misc Business Services	H
	MOTION PRO, INC.	867 American ST	Motorcycle Repair	M
10024	DAN-MAR TOOL & SUPPLY CO	907 AMERICAN ST	Misc Business Services	L
15630	RB DESIGN	916 AMERICAN ST	Counter Tops	L
12989	STATE PLUMBING & HEATING	1000 AMERICAN ST	Plumbing, Heat, A/C	L
18653	AMAZING AUTO FACTORY LLC	1029 AMERICAN ST	Auto Service Except Repair/Was	M
12412	CHAMPION AUTOMOTIVE	1036 AMERICAN ST	Auto Detail/Repair/Supplies	M
13519	INSIGHT MANUFACTURING SERVICES	1052 AMERICAN ST	Assembly & Design	M
10247	WALKER AIRPLANE ENT	1067 AMERICAN ST	Manufacturing	M
12050	PACIFIC WEAVING CORP	1068 AMERICAN ST	Wholesale	L
	PENINSULA PLATING, INC	1083 American St		L
15650	REBARTS INTERIORS HUNTER DOUGLAS GALLER	990 INDUSTRIAL RD STE	Window Coverings & Flooring	L
20661	AIM BLIND & DRAPERY	990 INDUSTRIAL RD STE	REPAIR SERVICES	M
13042	UNIVERSAL PRECISION MFG	1091 INDUSTRIAL RD STE	Industrial Machinery & Equip	M
17091	RED AND BLUE MOTORS INC	1091 INDUSTRIAL RD STE	New/Used Vehicle Dealership	M
17215	Z CARZ INC	1091 INDUSTRIAL RD STE	New/Used Vehicle Dealership	M
12762	M S F INC	1100 INDUSTRIAL RD STE	Misc Business Services	L
14462	LIVELEAF INC	1160 INDUSTRIAL RD STE	Manufacturing	L
12866	PRECISION DESIGN	1160 INDUSTRIAL RD STE	Misc Business Services	L
12837	PACIFIC RUBBER & PACKING	1160 INDUSTRIAL RD STE	Misc Business Services	L
11880	ARTISTIC GARAGE DOORS	1200 INDUSTRIAL RD STE	Misc Business Services	L
16492	INTER-OCEAN SEAFOOD TRADER	1200 INDUSTRIAL RD STE	Wholesale	L
13475	BANFIELD THE PET HOSPITAL #1691	1225 INDUSTRIAL RD	Veterinary/Animal Clinic	L
12956	SELECTIVE TRANSIT PARTS INC	1300 INDUSTRIAL RD STE	Nondurable Goods Not Classifi	L
10872	CONTINENTAL DIA DIAMOND PROD	1300 INDUSTRIAL RD STE	Wholesale	L
12336	LUMASCAPE USA INC	1300 INDUSTRIAL RD STE	Assembly & Design	M
12418	CHIMERE/PICKERS PARADISE	1409 INDUSTRIAL RD	General Warehousing & Storage	L
16316	HABITAT FOR HUMANITY GREATER SF RESTORE	1411 INDUSTRIAL RD	Non Profit Org/Charities	L

Account number	Account name	account address	Business type	Priority
20616	FMGJ INC	1538 INDUSTRIAL RD STE	Wholesale	L
18009	DUCKY'S CAR WASH LLC	1301 OLD COUNTY RD	Car Wash	H
12916	ROSSETTI & DUBRAE DRAPERIES	1377 OLD COUNTY RD ST	Manufacturing Ind Not Classifi	L
20012	PENINSULA CUSTOM HOMES, INC.	1401 OLD COUNTY RD	Contractor In Town	L
17996	RAIL SPORTS BAR & GRILL	612 EL CAMINO REAL	Liquor/Hookah Lounge	H
13121	LESLIE'S SWIMMING POOL SUPPLIES	770 EL CAMINO REAL	Misc Retail	L
16122	C & C EXPORT CAR CENTER	900 EL CAMINO REAL	New/Used Vehicle Dealership	H
18259	FORTUNE HOUSE	1050 EL CAMINO REAL	Restaurant	H
11852	TRADER JOE'S #174	1482 EL CAMINO REAL	Grocery Store	H
12489	EL CHARRITO TAQUERIA	1100 HOLLY ST	Restaurant	H
10237	VCA HOLLY ST ANIMAL HOSPITAL	501 LAUREL ST	Veterinary/Animal Clinic	L
16674	SANDWICH HUT	603 LAUREL ST	Sandwich Shop	M
16699	LIMONE	619 LAUREL ST	Restaurant	L
15505	THE OLIVE CRUSH, LLC	653 LAUREL ST	Retail Misc Food Store	M
16231	NUT 'N BEAN	653 LAUREL ST	Retail Misc Food Store	M
20144	THE WINE PROJECT	663 LAUREL ST	Restaurant	M
16132	PEET'S COFFEE & TEA	677 LAUREL ST STE B	Coffee Shop	M
20073	ANTRIM ASSOCIATES, LLC	716 LAUREL ST STE 11	MANUFACTURING REPRESENTAT	L
15862	SEIYA RESTAURANT	741 LAUREL ST	Restaurant	M
20224	WILLOW LANDSCAPE & IRRIGATION	751 LAUREL ST # 346	Gardening/Landscape	L
16041	NOTHING BUNDT CAKES	864 LAUREL ST	Bakery/Coffee Shops	M
16904	ANIMAL DENTAL CLINIC	987 LAUREL ST	Veterinary/Animal Clinic	L
17261	NOELANI'S BAR AND GRILL	1037 LAUREL ST	Restaurant	M
12386	CABINET WORLD USA	1501 LAUREL ST	Wood Kitchens Cabinets	L
16449	FINA'S CAFE	1665 LAUREL ST	Coffee Shop	M
16034	CUISINETT	1105 SAN CARLOS AVE	Restaurant	H
16443	DELIZIE	1107 SAN CARLOS AVE	Restaurant	H
15756	RED HOT CHILLI PEPPER	1125 SAN CARLOS AVE	Restaurant	H

Account number	Account name	account address	Business type	Priority
10254	SAFFRON INDIAN BISTRO	1143 SAN CARLOS AVE	Restaurant	H
17071	LA CORNETA TAQUERIA	1147 SAN CARLOS AVE	Restaurant	H
10691	TASK 2	540 BRAGATO RD	Service Provided	H
11545	DA-TRU COMPANY	71 GLENN WAY STE 2	Manufacturing	L
13198	PORTE VELO	80 GLENN WAY STE 12	Repair Services	M
10159	R P MANUFACTURING	111 GLENN WAY STE 12	Manufacturing	L
15209	NOVARTIS PHARMACEUTICALS	150 INDUSTRIAL RD	Med,Dent,Hosp Equip / Supplies	H
20136	ORCHARD SUPPLY HARDWARE	360 INDUSTRIAL RD	Retail And Wholesale	H
15300	THE VILLAGE GARDENER INC	205 OLD COUNTY RD	Landscaping	L
11848	THE KALB CO DBA HOLIDAY KENNEL	221 OLD COUNTY RD	Misc Business Services	L
11477	WESOLEK ENTERPRISES	235 OLD COUNTY RD	Misc Business Services	L
18752	SMILIN DOGS	251 OLD COUNTY RD	Pet Services	L
20345	SEQUOIA VETERINARY HOSPITAL INC.	255 OLD COUNTY RD	Veterinary/Animal Clinic	L
12771	MARTIN SCREEN SHOP INC	301 OLD COUNTY RD	Window Coverings & Flooring	L
17175	DRYFAST (UNIT A) / UNKNOWN (UNIT B)	642 QUARRY RD	Contractor In Town	H
14285	BIOCARDIA INC	125 SHOREWAY RD STE I	Med,Dent,Hosp Equip / Supplies	L
18879	RECOLOGY SAN MATEO COUNTY	225 SHOREWAY RD	Waste Management	H
14745	SOUTH BAY RECYCLING LLC	333 SHOREWAY RD	Waste Management	H
12758	LYNGSO GARDEN MATERIALS	345 SHOREWAY RD	Gardening Supplies	M
15073	DIGITAL SERVICE SOLUTIONS	511 TAYLOR WAY	Misc Business Services	L
13337	ALLIANCE MEMORY	511 TAYLOR WAY	Manufacturing	M
12735	L & M ELECTRONICS INC	541 TAYLOR WAY STE 10	Manufacturing Ind Not Classifi	L
18313	SOLIS FAMILY GLASS	551 TAYLOR WAY STE 8	Glass & Glazing Work	L
12923	S & T MACHINING	551 TAYLOR WAY STE 12	Machine Shop	M
10326	CATALINA CABINETS, INC.	585 TAYLOR WAY STE 4	Custom Cabinet Shop	L
18005	M & J GLASS	585 TAYLOR WAY STE 2	Repair Services	M
11292	ARTS WOOD CABINETS, INC	611 TAYLOR WAY STE 4	Woodworking	L
16805	SUPERIOR LANDSCAPING SVC	620 TAYLOR WAY STE 1	Gardening/Landscape	L
18456	QUANTUM SYSTEMS INC	620 TAYLOR WAY STE 11	Manufacturing Cabinets/Tiles	L
12249	ALLEY INDUSTRIAL SUPPLY	620 TAYLOR WAY STE 5	Industrial Machinery & Equip	M
18897	RAIBON & COLBERT ASSOCIATES, INC.	620 TAYLOR WAY STE 4	Waste Management	M
10927	SITEONE LANDSCAPE SUPPLY LLC	815 AMERICAN ST	Wholesale	M
	MANUFACTURERS OUTLET	935 AMERICAN	Machine Shop	M
10956	MAX MOTORS	945 AMERICAN ST	Auto Detail/Repair/Supplies	M
6	A & D WELDING INC	1061 AMERICAN ST	Repair Services	M
11435	SAN CARLOS TRANSMISSIONS	1147 ARROYO AVE	Auto Detail/Repair/Supplies	M
11479	WHITE OAK CLEANER	1200 BELMONT AVE	Laundry Dry Cleaning/Coin	L
12506	PMI PRECLINICAL	1031 BING ST	Research And Development	M

Account number	Account name	account address	Business type	Priority
13026	TIEGEL MANUFACTURING CO INC	495 BRAGATO RD	Industrial Machinery & Equip	M
18551	BRAGATO PAVING COMPANY INC	500 BRAGATO RD	Paving	M
16206	CROWN COMPUTER RECYCLING INC	520 BRAGATO RD	Ewaste	L
15547	BAKER BROTHERS DEBRIS BOX & RECYCLING	522 BRAGATO RD	Hauling And Recycling	M
11635	KFF ENTERTAINMENT, LLC	522 BRAGATO RD	Rentals	M
17177	SKYIMD INC	530 BRAGATO RD	Manufacturing	M
12014	MAYNE TREE EXPERT CO INC	535 BRAGATO RD STE A	Contractor In Town	M
16520	CONSCAPES, INC.	550 BRAGATO RD	Contractor In Town	L
11494	AMERICAN PROTOTYPE INC	555 BRAGATO RD	Manufacturing	M
17925	BEYOND BUILDERS	560 BRAGATO RD	Contractor In Town	L
12672	ITALIAN PERFORMANCE	565 BRAGATO RD STE A	Auto Detail/Repair/Supplies	M
11951	G BORTOLOTTO & COMPANY	580 BRAGATO RD	Contractor In Town	M
12312	H & H ENTERPRISES MACHINE SHOP	585 BRAGATO RD	Misc Business Services	L
10800	AT&S ARTISTIC TILE AND STONE, INC.	830 BRANSTEN RD STE B	Wholesale W/Incidental Retail	L
20269	RUSTWORKS	830 BRANSTEN RD STE F	FABRICATION	M
18525	ELECTRIC MOTOR WERKS, INC.	846 BRANSTEN RD	Manufacturing Ind Not Classifi	L
10684	SOUNDWAVE	860 BRANSTEN RD	Misc Retail	L
17536	SINGLE CYLINDER REPAIR SAN CARLOS	870 BRANSTEN RD	Repair Services	M
12086	TOM DUFFY COMPANY	916 BRANSTEN RD	Wholesale	L
17411	A & B TRAILER HITCH INC	926 BRANSTEN RD	Auto Detail/Repair/Supplies	M
13053	VIVION INC	929 BRANSTEN RD	Wholesale	M
12231	ACM GRINDING	945 BRANSTEN RD	Manufacturing Ind Not Classifi	M
	SUPERIOR AUTO BODY	956 BRANSTEN RD	Auto Detail/Repair/Supplies	M
16354	LYSGAARD ELECTRIC	1007 BRANSTEN RD	Contractor In Town	L
10759	A I M SHEET METAL INC	1008 BRANSTEN RD	Contractor In Town	L
12883	R P SPECIALISTS INC	1011 BRANSTEN RD STE	Manufacturing Ind Not Classifi	M

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12620	HOFFMAN METAL PRODUCTS INC	1011 BRANSTEN RD STE	Manufacturing Ind Not Classifi	M
12430	CONCEPTS & METHODS CO INC DBA CAMCO FU	1017 BRANSTEN RD	Manufacturing	L
13225	CEMEX CONSTRUCTION MATERIALS LP	1026 BRANSTEN RD	Misc Retail	M
17359	GIORDANO RESTORATIONS	1101 BRANSTEN RD STE	Auto Detail/Repair/Supplies	M
18675	GREENSTREETS CLEANERS	1161 BRITTAN AVE	Laundry/Tailor Service	L
	BUCKLAND TANK SITE M P W D	940 Buckland		L
12951	SCHAFER SHEET METAL & MFG INC	927 CENTER ST	Sheet Metal Work	M
10391	LAZAR MACHINING INC	1001 CENTER ST	Machine Shop	M
10137	PROLINE CARPET MNTC SUPPLY INC	1033 CENTER ST	Upholstery/Carpet/Drapes	L
11734	HANSON AND KASTLES	1045 CENTER ST	Misc Business Services	M
10670	REDWOOD LUMBER & SUPPLY CO LLC	1069 CENTER ST	Lumber/ Other Bldg Materials	M
14566	PENINSULA HAULING & DEMO	839 CHERRY LN	Contractor In Town	L
12262	APEX DIE CORPORATION	840 CHERRY LN	Manufacturing Ind Not Classifi	M
10064	KIEFER MACHINING	940 COMMERCIAL ST STI	Machine Shop	M
17035	FABTRON	950 COMMERCIAL ST	Machine Shop	M
10314	BOBKAT PRINTING	1040 COMMERCIAL ST	Publishing (Print/Edit/Art)	M
	ZOOX LABS, INC	1056 COMMERCIAL		L
	SMC RADIO - SAN CARLOS	700 CRESTVIEW		L
10824	DEVONSHIRE LITTLE STORE	20 DEVONSHIRE BLVD	Grocery Store	M
10967	NICOLOSI DISTRIBUTING, INC.	975 E SAN CARLOS AVE	Distributor	M
14448	CVS STORE #09172	11 EL CAMINO REAL	Drug Store	L
11321	JERSEY JOES AUTHENTIC HOAGIES	21 EL CAMINO REAL	Restaurant	M
11683	HOTEL SAN CARLOS	26 EL CAMINO REAL	Motels	M
13436	KAYA BBQ & TOFU	39 EL CAMINO REAL	Restaurant	M
11074	SEANNA WOODWORKS INC	40 EL CAMINO REAL	Woodworking	L
12738	LANDON UNIVERSAL POOL CENTER	54 EL CAMINO REAL	Pool & Spa Install/Repair	L
16254	THE OMELETTE HOUSE	66 EL CAMINO REAL	Restaurant	M
20410	ENTIRE WORLD, INC.	81 EL CAMINO REAL	LAUNDRY/TAILOR SERVICE	L
10059	JUSTIN'S 76	90 EL CAMINO REAL	Services/Gas Station	M
12713	KABUL AFGHAN CUISINE	135 EL CAMINO REAL	Restaurant	M
12134	ADEL MARKET	171 EL CAMINO REAL	Grocery Store	M
12775	MCDONALD'S	180 EL CAMINO REAL	Restaurant	M
12286	AUTO PRIDE CAR WASH	195 EL CAMINO REAL	Car Wash	M
17684	Dunkin Donuts	240 EL CAMINO REAL	Restaurant	M
10005	COUNTRY INN & SUITES	251 EL CAMINO REAL	Hotel	M
12998	TACO BELL #30796	259 EL CAMINO REAL	Restaurant	M

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11817	LES SCHWAB TIRE CENTER #669	260 EL CAMINO REAL	Retail Tire Center	M
11185	CREOLA	344 EL CAMINO REAL	Restaurant	M
12628	SIRAYVAH ORGANIC THAI CUISINE	366 EL CAMINO REAL	Restaurant	M
15211	SMART CARE AUTO	400 EL CAMINO REAL	General Auto Repair Serv	M
12954	SECURITY ROOFING INC	406 EL CAMINO REAL	Roofing, Siding	L
13454	SAN CARLOS GERMAN MOTOR WORKS	430 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
18923	SDT HOLLY SHELL	500 EL CAMINO REAL	Services/Gas Station	M
10466	THE NEW PATIO	552 EL CAMINO REAL	Liquor/Hookah Lounge	M
10878	DEPOT CAFE	599 EL CAMINO REAL	Coffee Shop	M
15911	SAN CARLOS BAR & GRILL	648 EL CAMINO REAL	Restaurant	M
18387	RITA'S ITALIAN ICE	740 EL CAMINO REAL	Ice Cream Parlor	M
11707	SUBWAY SANDWICHES & SALADS #32364	744 EL CAMINO REAL	Delicatesson	M
11469	TUNE-UP CENTER	760 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
18679	MOUNTAIN MIKE'S PIZZA	774 EL CAMINO REAL	Restaurant	M
13407	CELEBRATIONS FOR HIRE	796 EL CAMINO REAL ST	Catering	L
11945	FMM REPAIR INC DBA BIMMER'S	800 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
15367	880 AUTO WORKS	880 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
12394	NIELSEN AUTOMOTIVE INC	888 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
12367	BOB & KEVIN'S SERVICE	900 EL CAMINO REAL	Repair Services	M
18580	THE RUSTIC 94070 INC DBA RUSTIC HOUSE	920 EL CAMINO REAL	Restaurant	M
11515	BIRDER'S GARDEN	926 EL CAMINO REAL	Misc Retail	L
14599	MID PENINSULA HOTEL LLC	950 EL CAMINO REAL	Motels	L
11193	CLEAN MACHINE II	980 EL CAMINO REAL	Misc Business Services	L
14678	JIFFY LUBE #610	1030 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
16936	SAN CARLOS STAR SMOG AND REPAIR	1098 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
18915	SPEEDY SMOG & SERVICE	1098 EL CAMINO REAL	Auto Service Except Repair/Was	M
15227	BRITTAN AVE SHELL	1098 EL CAMINO REAL	Services/Gas Station	M
12682	JACK-IN-THE-BOX #0468	1100 EL CAMINO REAL	Restaurant	M
12818	OIL CHANGERS STORE 617	1188 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
14974	The Rack Spot	1200 EL CAMINO REAL	Auto Parts	M
13004	THAI TIME CORPORATION	1240 EL CAMINO REAL	Restaurant	M
10626	O'REILLY AUTO PARTS #3535	1272 EL CAMINO REAL	Auto Parts	M
16711	ROUND TABLE PIZZA #322	1324 EL CAMINO REAL	Restaurant	M
18358	THE CAKE QUEENS	1336 EL CAMINO REAL	Bakery/Coffee Shops	M
15351	NEW YORK PIZZA & PASTA	1340 EL CAMINO REAL	Restaurant	M
16080	WEST COAST CONSTRUCTION CO	1346 EL CAMINO REAL	Contractor In Town	M
13056	WALGREEN COMPANY #2126	1414 EL CAMINO REAL	Drug Store	L
20653	iGUEY TAQUERIA	1494 EL CAMINO REAL	Restaurant	M
14531	DE LUXE CLEANERS	1500 EL CAMINO REAL	Laundry Dry Cleaning/Coin	L
17931	MINTS & HONEY LLC	1524 EL CAMINO REAL	Misc Business Services	M
12360	AMERICA'S BEST VALUE INN	1562 EL CAMINO REAL	Motels	L
14752	MEDITERRANEAN DELITE	1620 EL CAMINO REAL	Restaurant	M
12292	BASKIN ROBBINS #0154	1648 EL CAMINO REAL	Ice Cream Parlor	M
10883	DUNCAN MOTORS	1655 EL CAMINO REAL	New/Used Vehicle Dealership	M
12583	GRANARAS FLOWERS	1682 EL CAMINO REAL	Florist	L
17134	AAMCO TRANSMISSIONS AKA AMERICAN DRIVE	1700 EL CAMINO REAL B	Auto Detail/Repair/Supplies	M

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17516	SAN CARLOS AUTO PERFORMANCE	1700 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
18786	AUTO TECH SOLUTIONS	1700 EL CAMINO REAL #	Auto Detail/Repair/Supplies	M
16300	DRIVE LINE AUTO	1745 EL CAMINO REAL	New/Used Vehicle Dealership	M
15370	THE OFFICE	1748 EL CAMINO REAL	Restaurant	M
18787	PERFECT LUBE	1792 EL CAMINO REAL	Auto Service Except Repair/Was	M
10496	CARL'S JR RESTAURANT/ TWM	1800 EL CAMINO REAL	Restaurant	M
10797	CALIFORNIA AUTO UPHOLSTERY	1803 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
17770	DRIVELINE AUTO SERVICE	1805 EL CAMINO REAL	Auto Detail/Repair/Supplies	M
	MID PEN WTR DIST-EXBOURNE PUMP STA	140 EXBOURNE		L
16984	BURNWATER INC.	71 GLENN WAY STE 7	Manufacturing	M
18921	PETALS BY CARY, LLC	80 GLENN WAY STE 7	Florist	L
17584	COASTAL SPIRITS LLC	110 GLENN WAY	Distributor	L
13570	TABLEART	110 GLENN WAY STE 20	Misc Retail	L
13072	WILLIAM F ROSSI PAINTING & DE	110 GLENN WAY STE 17	Painting (Supplies/Glass/Wall)	M
18784	ROLLING HAZARDS	111 GLENN WAY STE 2	Auto Service Except Repair/Was	M
10571	DVISION METAL WORKS LLC	120 GLENN WAY	Fabricated Metal Products	M
16099	BONOMI CABINETS	131 GLENN WAY STE 9	Custom Cabinet Shop	L
10469	TNT DEMOLITION	161 GLENN WAY	Contractor In Town	M
12712	JUSTASHOP	170 GLENN WAY STE 14	Misc Business Services	L
11005	HOLLY 76	906 HOLLY ST	Retail Gasoline Station	M
24	AYA SUSHI, INC.	1070 HOLLY ST	Restaurant	M
14167	7-ELEVEN STORE 14338	1080 HOLLY ST	Convenience Store/Mini Mart	M
16053	HOLLY CLEANER & TAILORS	1152 HOLLY ST	Laundry/Tailor Service	L
12815	O K LUMBER COMPANY	1061 HOWARD AVE	Lumber & Other Building Matls	M
12660	HOWARD RADIATOR INC.	1150 HOWARD AVE	Auto Service Except Repair/Was	M
12659	HOUSE OF WRECKERS	161 INDUSTRIAL RD	Auto Service Except Repair/Was	M
15136	EUROTECH COMPLETE AUTO CARE	171 INDUSTRIAL RD	New/Used Vehicle Dealership	M
20432	JM Lenman Construction	181 INDUSTRIAL RD	WHOLESALE	L
15095	SAN FRANCISCO SPORTS CARS	191 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
15830	TAORMINA IMPORTS	191 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
16851	DYNAMIC AUTO WEST	191 INDUSTRIAL RD	New/Used Vehicle Dealership	M
11844	SUPERIOR UPHOLSTERY	226 INDUSTRIAL RD	Restoration (Auto/House/Furn)	L
10387	KELLER ENTERPRISES	234 INDUSTRIAL RD	Manufacturing	M
11092	SAN CARLOS COLLISION CENTER	236 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
58	CAMBRON AUTO BODY INC	244 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
20065	AL'S ROOFING SUPPLY, INC.	266 INDUSTRIAL RD STE	Construction Supply	M
11926	DELTA STAR INC	270 INDUSTRIAL RD	Fabricated Metal Products	M
17836	PALO ALTO MEDICAL FOUNDATION FOR HEALTH	301 INDUSTRIAL RD	Non Profit Org/Charities	M
11328	KELLY PAPER COMPANY	320 INDUSTRIAL RD	Wholesale	L
11527	CAL ART AND ENGRAVING INC	340 INDUSTRIAL RD	Design (Int/Graphic/Mech/Arch)	L
10847	B&H TECHNICAL CERAMICS	390 INDUSTRIAL RD	Machine Shop	M
15646	IN-N-OUT BURGERS	445 INDUSTRIAL RD	Restaurant	M
17276	PPG PAINTS	476 INDUSTRIAL RD	Paint/ Glass/ Wallpaper Stores	M
11961	IJK & COMPANY INC DBA BAYSHOR	501 INDUSTRIAL RD	Wholesale	M
17487	MEDALLION LANDSCAPE MANAGEMENT	551 INDUSTRIAL RD	Landscaping	L

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17314	BAKERS LOCAL 24	551 INDUSTRIAL RD	Non Profit Org/Charities	L
12533	FABTRON	615 INDUSTRIAL RD	Fabricated Metal Products	M
11111	SMJATC	625 INDUSTRIAL RD	Non Profit Org/Charities	L
12020	P A BET INC	629 INDUSTRIAL RD	Contractor In Town	L
14539	THE CAR FACTORY	727 INDUSTRIAL RD STE	Transportation Services	L
12362	BILL'S AUTO GLASS & CLASSIC	745 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
12994	SUPERIOR AUTO BODY	747 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
12358	BERMICO AUTO INC	750 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
17212	T S S A MOULTON CORP	794 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
20619	CALIBER BODYWORKS INC.	794 INDUSTRIAL RD	General Auto Repair Serv	M
	SOUTH BAY MARBLE INC	797 Industrial		L
13059	WARREN PRECISION MACHINING INC	800 INDUSTRIAL RD	Industrial Machinery & Equip	M
15162	ALLIANCE GAS PRODUCTS	820 INDUSTRIAL RD	Wholesale	L
14799	A3 TILE INC	887 INDUSTRIAL RD # K-I	Retail And Wholesale	M
12529	EWING IRRIGATION PRODUCTS	900 INDUSTRIAL RD STE	Wholesale	L
11091	SAN CAFE	960 INDUSTRIAL RD	Restaurant	M
20233	The Pill Club	969 INDUSTRIAL RD STE	MANUFACTURING IND NOT CLAS	L
17222	BEELINE BIKES INC	1100 INDUSTRIAL RD STE	Repair Services	M
13763	STARBUCKS COFFEE #14608	1135 INDUSTRIAL RD STE	Coffee Shop	M
13859	WINGSTOP	1135 INDUSTRIAL RD STE	Restaurant	M
13808	CHIPOTLE MEXICAN GRILL #1174	1135 INDUSTRIAL RD STE	Restaurant	M
18492	JAMBA JUICE	1135 INDUSTRIAL RD STE	Retail Misc Food Store	M
16072	ALPHASCRIPT INC	1160 INDUSTRIAL RD STE	R&W	L
10197	ACTION SIGN SYSTEMS INC, BESPOKE SIGNS, INC	1200 INDUSTRIAL RD STE	Manufacturing	L
12674	J & J SEAFOODS CORP	1200 INDUSTRIAL RD STE	Misc Business Services	L
12422	ALP CLENACORP DIVISION	1200 INDUSTRIAL RD STE	Misc Business Services	L
13755	SYLVAN SOURCE INC	1200 INDUSTRIAL RD STE	Water Purification	L
17596	KIYOI INC	1200 INDUSTRIAL RD STE	Wholesale	L
16044	ALLACCEM INC	1300 INDUSTRIAL RD STE	Manufacturing Ind Not Classifi	L
10269	STAR ELEVATOR INC	1300 INDUSTRIAL RD STE	Service Provided	M
14089	PINNACLE ENGINES, INC.	1300 INDUSTRIAL RD STE	Engineering Design/Draft/Plan	M
16171	HOLLAND CAR CARE INC	1380 INDUSTRIAL RD	Auto Detail/Repair/Supplies	M
11912	DA VINCI MARBLE, INC.	1480 INDUSTRIAL RD	Wholesale	M
10965	NATUS MEDICAL INC	1501 INDUSTRIAL RD	Misc Retail	L
15833	SIEMENS INDUSTRY INC	1661 INDUSTRIAL RD	Contractor In Town	M
16932	IMAGE AUTO	1667 INDUSTRIAL RD	Repair Services	M
10050	IRONSTONE METAL WORKS INC	1700 INDUSTRIAL RD	Contractor In Town	M

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11307	IMAGIN SYSTEMS CORPORATION	1700 INDUSTRIAL RD STE	Manufacturing	M
10417	PERFORMANCE FABRICATION	1701 INDUSTRIAL RD	Misc Retail	M
11740	HOLLY MARKET	491 LAUREL ST	Grocery Store	M
18149	LUNCHBOX	603 LAUREL ST	Delicatesson	M
12655	HOUSE OF BAGELS	605 LAUREL ST	Bakery/Coffee Shops	M
15849	LOCANDA POSITANO	617 LAUREL ST	Restaurant	L
10232	NINO'S RISTORANTE & PIZZERIA INC	621 LAUREL ST	Restaurant	M
11335	LE BOULANGER INC	622 LAUREL ST	Bakery/Coffee Shops	M
17223	GHERKINS SANDWICH SHOP	635 LAUREL ST	Sandwich Shop	M
12966	SIAMESE KITCHEN	637 LAUREL ST	Restaurant	M
18136	SUSIECAKES BAKERY	649 LAUREL ST	Bakery/Coffee Shops	L
18455	PATXI'S PIZZA	677 LAUREL ST STE B	Restaurant	M
12825	ORCHID ROOM	678 LAUREL ST	Liquor/Hookah Lounge	L
16978	RANGOON RUBY BURMESE CUISINE	680 LAUREL ST	Restaurant	M
10229	TOWN G&T RESTAURANTS INC	716 LAUREL ST	Restaurant	M
10432	RISTORANTE PIACERE	727 LAUREL ST	Restaurant	M
20476	SAKURA TEPPANYAKI AND SUSHI	744 LAUREL ST	Restaurant	M
20455	ASYA RESTAURANT	749 LAUREL ST	Restaurant	M
10437	SANTORINI	753 LAUREL ST	Restaurant	M
10056	JIN'S CLEANER	765 LAUREL ST	Laundry Dry Cleaning/Coin	L
17774	SPASSO	769 LAUREL ST	Restaurant	M
16305	KAIGAN SUSHI	773 LAUREL ST	Restaurant	M
18888	PRANZI ITALIAN BISTRO	777 LAUREL ST	Restaurant	M
13947	CASK INC	782 LAUREL ST	Liquor/Hookah Lounge	M
11818	PLANTATION COFFEE ROASTERY	784 LAUREL ST	Coffee Shop	M
18010	SEVDA INC	788 LAUREL ST	Restaurant	M
14390	BIANCHINI'S MARKET	810 LAUREL ST	Grocery Store	M
16188	SHIKI BISTRO	825 LAUREL ST	Restaurant	M
17406	THE CREPE STOP	852 LAUREL ST	Restaurant	M
10455	STARBUCKS COFFEE #10717	856 LAUREL ST	Bakery/Coffee Shops	M
13836	VANILLA MOON BAKERY, INC.	872 LAUREL ST	Bakery/Coffee Shops	M
20623	BOBA GUYS	872 LAUREL ST	Restaurant	M
15341	LULU'S ON LAUREL INC	876 LAUREL ST	Restaurant	M
10267	YAN'S GARDEN CHINESE RESTAURANT, LLC	885 LAUREL ST	Restaurant	M
13952	888 RISTORANTE ITALIANO	888 LAUREL ST	Restaurant	M
16249	TASTE VIN BISTRO & CHEESE	890 LAUREL ST	Winery	M
12828	OZUMA, INC.	894 LAUREL ST	Restaurant	M
18101	BROILER EXPRESS	895 LAUREL ST	Restaurant	M
10368	GRACIE'S DELECTABLES	902 LAUREL ST	Bakery/Coffee Shops	M
13333	THE REFUGE	963 LAUREL ST	Restaurant	M
16471	ALE ARSENAL	971 LAUREL ST	Restaurant	M
15584	NEW FLOWER DRUM	1109 LAUREL ST	Restaurant	M
14981	MY BREAKFAST HOUSE	1137 LAUREL ST	Restaurant	M
14226	NEW CANTON	1160 LAUREL ST	Restaurant	M
12933	SAN CARLOS PAINT & BODY SHOP	1177 LAUREL ST	Auto Detail/Repair/Supplies	M
13276	PAZZO RESTAURANT	1179 LAUREL ST	Restaurant	M
18635	SAVANNA JAZZ LLC	1183 LAUREL ST	Liquor/Hookah Lounge	M

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16981	PANDA DUMPLING	1195 LAUREL ST	Restaurant	M
17368	RYU SUSHI BISTRO	1201 LAUREL ST	Restaurant	M
15200	THE SANDWICH SPOT	1295 LAUREL ST	Sandwich Shop	M
12736	LA HACIENDA RESTAURANT	1377 LAUREL ST	Restaurant	M
16857	JEFF'S AUTO SERVICE , INC.	1383 LAUREL ST	Repair Services	M
10108	BELMONT AUTO REPAIR	1383 LAUREL ST # B	Auto Detail/Repair/Supplies	M
17155	HOTWOK BISTRO TOO	1541 LAUREL ST	Restaurant	M
10776	AMAZING WOK	1653 LAUREL ST	Restaurant	M
20273	THE TOSS SAN CARLOS	1673 LAUREL ST	Restaurant	M
16707	SALTBOX	1696 LAUREL ST	Restaurant	M
17949	3 PIGS BBQ LLC	1754 LAUREL ST	Restaurant	M
	SAN CARLOS PUMP STATION	150 MONTE VISTA		L
10531	B & F HARDWOOD FLOORING CO	303 OLD COUNTY RD # A	Floor Laying & Work	M
	PENINSULA LABORATORIES INTERNATIONAL INC	305 OLD COUNTY		L
	ALL AUTOMOTIVE MASTERS	501 OLD COUNTY		L
15492	DOLLAR TREE #4505	1121 OLD COUNTY RD	Retail (Gen/Antique/Gift/Nov)	M
	ARATA EQUIPMENT COMPANY	1655 OLD COUNTY		L
10665	QUESCO KITCHEN WAREHOUSE INC	151 OLD COUNTY RD # 3	Custom Cabinet Shop	L
10659	PIONETICS CORPORATION	151 OLD COUNTY RD	Wholesale	L
13607	THE COUNTER TOP STORE	151 OLD COUNTY RD	Counter Tops,	M
12305	BELMONT BOAT SERVICE	151 OLD COUNTY RD STE	Misc Business Services	M
12558	FIBERGLASS UNLIMITED INC.	151 OLD COUNTY RD STE	Repair Services	M
14615	PENINSULA AUTO WORKS	217 OLD COUNTY RD	Various - Auto Detailing	L
10710	WEST BAY THUNDER	217 OLD COUNTY RD STE	Misc Retail	L
10901	FRANS MERCEDES SERVICE	219 OLD COUNTY RD	Auto Detail/Repair/Supplies	M
15975	EUROPEAN AUTO CORPORATION	219 OLD COUNTY RD STE	Auto Detail/Repair/Supplies	M
20450	ARTEC AUTOMOTIVE GROUP	219 OLD COUNTY RD STE	AUTO DETAIL/REPAIR/SUPPLIES	M
15974	T AND S AUTO REPAIR	219 OLD COUNTY RD STE	Auto Detail/Repair/Supplies	M
17041	PANG PANG AUTO SHOP	219 OLD COUNTY RD STE	Auto Service Except Repair/Was	M
10446	SMOG X-PRESS	219 OLD COUNTY RD STE	Smog Testing Station	M
11183	CHUCK'S DONUT	495 OLD COUNTY RD	Donut Shops	M
11882	BAB BAY AUTO BODY & PAINTING	501 OLD COUNTY RD STE	Auto Detail/Repair/Supplies	M
11820	PRO ALIGNMENT & AUTO SERVICE	501 OLD COUNTY RD STE	Auto Detail/Repair/Supplies	M
17703	KAMAKSHI'S KITCHEN LLC	601 OLD COUNTY RD	Restaurant	M
20406	ZOOX	621 OLD COUNTY RD	Manufacturing	L
10299	AUTOHAUS ZDENEK	665 OLD COUNTY RD	Auto Detail/Repair/Supplies	M
16498	BEST AUTOWORKS	681 OLD COUNTY RD	Auto Service Except Repair/Was	M
10805	COUNTY BODY & PAINT	681 OLD COUNTY RD	Auto Detail/Repair/Supplies	M
15962	WISE TRANSMISSION	749 OLD COUNTY RD	Auto Detail/Repair/Supplies	M
11522	BROADWAY AUTO INC	779 OLD COUNTY RD	Transportation Services	L
15808	MOREY MAINTENANCE INC	781 OLD COUNTY RD	Misc Business Services	M
11462	THE PEP BOYS-MANNY, MOE & JACK	1087 OLD COUNTY RD	Auto Parts	M
13012	THE HOME DEPOT #0628	1125 OLD COUNTY RD	Hardware Supplies/Sales	M
13269	LUCKY #749	1133 OLD COUNTY RD	Grocery Store	M

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12289	B & H ENGINEERING	1725 OLD COUNTY RD	Engineering Services	M
10500	CHILTON AUTOBODY INC	361 QUARRY RD	Auto Detail/Repair/Supplies	M
14459	VANCEA AUTO SERVICES	383 QUARRY RD	Auto Detail/Repair/Supplies	M
16338	Reptor Mining	385 QUARRY RD	Auto Detail/Repair/Supplies	M
	SKIPS AUTOMOTIVE SERVICE	389 QUARRY RD		L
16592	RJ PENINSULA INC DBA ROCKIN JUMP	401 QUARRY RD	Misc Business Services	M
	CATERING CONNECTION	550 QUARRY RD		L
10048	HYLAND CONTRACTORS	585 QUARRY RD	Contractor In Town	L
12705	JPH DESIGN MANAGEMENT INC	585 QUARRY RD	Misc Business Services	L
16544	XING CONSTRUCTION INC	589 QUARRY RD	Contractor In Town	M
12532	FABLE INC	595 QUARRY RD	Contractor In Town	M
12233	ADBAG INC	597 QUARRY RD	Plastic Products	L
18078	AGRESSIVE MALL	610 QUARRY RD UNIT B	Misc Retail	L
17025	IMAGE AUTO	639 QUARRY RD	Repair Services	M
17980	SHACK BROTHERS	639 QUARRY RD # B	Repair Services	M
12218	A & E ELECTRICAL CO INC	641 QUARRY RD	Electric Work	M
10636	ROD'Z BODY SHOP	643 QUARRY RD	Auto Detail/Repair/Supplies	M
10810	50-50 MUFFLER SERVICE	645 QUARRY RD	Auto Detail/Repair/Supplies	M
11619	A&E AUTOMOTIVE	647 QUARRY RD	Auto Detail/Repair/Supplies	M
15135	TUTTI FRUTTI	1148 SAN CARLOS AVE	Yogurt Shop	M
20555	BISTRO BURGER	1152 SAN CARLOS AVE	Restaurant	M
12389	CALIF TRADING CO DBA CARLOS	1156 SAN CARLOS AVE	Misc Retail	L
12629	TACOS AND TEQUILA	1163 SAN CARLOS AVE	Restaurant	M
10133	PLAZA FLORIST & GIFTS	1171 SAN CARLOS AVE	Florist	L
12111	STARBUCKS COFFEE #608	1187 SAN CARLOS AVE	Coffee Shop	M
17554	KING CHUAN SAN CARLOS LLC	1188 SAN CARLOS AVE	Restaurant	M
	BLUE LINE PIZZA	1201 SAN CARLOS		L
14449	CVS DRUG STORE #00550	1324 SAN CARLOS AVE	Drug Store	L
	CALIFORNIA WATER SERVICE MPS STATION 116	250 SHELFORD		L
17300	OMNIOX INC	75 SHOREWAY RD STE B	Biological Research	M
18858	APEXIGEN INC	75 SHOREWAY RD STE C	Biological Research	M
16147	BK 10442	505 SKYWAY RD	Restaurant	M
11747	IZZY'S STEAKS & CHOPS	525 SKYWAY RD	Restaurant	M
	FAIRFIELD INN AND SUITES SF	555 SKYWAY RD		L
12619	HILLER AVIATION MUSEUM	601 SKYWAY RD	Non Profit Org/Charities	L
10160	RABBIT AVIATION SERV LLC	655 SKYWAY RD # HGR2	Airport Services	M
16429	SAN CARLOS FLIGHT CENTER	655 SKYWAY RD STE 215	School Specialty Classes	M
14775	San Mateo Airport	779 SKYWAY RD	Airport Services	M
20509	BAY AERIAL CORP	812 SKYWAY RD	AIRPORT SERVICES	M
18794	UBER TECHNOLOGIES INC	959 SKYWAY ROAD 100	Transportation Services	L

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12675	J & L DIGITAL PRECISION INC	551 TAYLOR WAY STE 15	Fabricated Metal Products	M
11524	C & C MACHINING INC	585 TAYLOR WAY STE 6	Manufacturing	L
15417	PROCUT MANUFACTURING	595 TAYLOR WAY STE 7	Machine Shop	M
15324	NOB HILL CATERING	601 TAYLOR WAY	Catering	L
12340	MARBLE CITY COMPANY INC	611 TAYLOR WAY STE 6	Misc Business Services	M
	RAMOS WOODWORKS INC	675 Taylor Way		L
14047	SWEET PRODUCTION, INC.	915 TERMINAL WAY # B	Bakery/Coffee Shops	M
12143	ARTISTIC MILLWORKS	935 TERMINAL WAY	Hardware Supplies/Sales	L
17063	MARK NORMAN ATV	940 TERMINAL WAY STE	Repair Services	M
11078	R M MACHINING INC	950 TERMINAL WAY	Manufacturing	M
11152	ADVANTAGE CONVERTING INC	959 TERMINAL WAY	Manufacturing	M
16924	DIAMOND FOUNDRY	965 TERMINAL WAY	Manufacturing	M
18533	WILLIE'S LANDSCAPING DESIGNS INC	972 TERMINAL WAY	Landscaping	M
12140	AMERICAN ARTISANS	974 TERMINAL WAY	Woodworking	L
17031	PENINSULA MOTORSPORTS	990 TERMINAL WAY	Repair Services	M
11909	D & J TILE COMPANY INC	1045 TERMINAL WAY	Contractor In Town	L
13549	ROYALITE MANUFACTURING INC	1055 TERMINAL WAY	Glass & Glazing Work	M
10572	DALEX	1062 TERMINAL WAY	Manufacturing	L
13949	CONCRETE CHEMICALS	1065 TERMINAL WAY	Manufacturing Ind Not Classifi	M
10360	EXCELL MACHINERY	1001 VARIAN ST	Retail (Gen/Antique/Gift/Nov)	M
18557	AT SUSHI	626 WALNUT ST STE 102	Restaurant	M
10529	ART'S FINISHING INC.	911 WASHINGTON ST	Misc Business Services	M
12091	UNITED REFRIGERATION INC	933 WASHINGTON ST	Wholesale	M
15579	UNICA PARTY RENTALS INC	948 WASHINGTON ST	Rentals	M
17496	WESOLEK VINEYARD	1001 WASHINGTON ST	Winery	L

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16445	WINEDOCTORS LLC	1001 WASHINGTON ST	Winery	L
15580	CUVEE WINE CELLARS	1001 WASHINGTON ST	Winery	M
15333	HOUSE OF BAGELS	1007 WASHINGTON ST	Bakery/Coffee Shops	M
14783	TOOLE'S GARAGE	1065 WASHINGTON ST	Auto Detail/Repair/Supplies	M