Green Infrastructure Funding Nexus Evaluation

Part of a Project for the
San Mateo Countywide Water
Pollution Prevention Program:

Green Infrastructure Planning

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Task 5.7

Project Team:

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1 INTRODUCTION

1.1 INTRODUCTION

The San Francisco Bay Regional Water Quality Control Board's (Regional Water Board) 2015 Municipal Regional Permit (referred to as MRP 2.0) includes specific provisions for addressing key pollutants of concern, including mercury, PCBs (polychlorinated biphenyls), and trash. The MRP 2.0 also requires jurisdictions to transition from gray, or piped, infrastructure storm drainage systems to green, or landscape-based, systems that capture, treat, and infiltrate runoff. In other words, Green Infrastructure.

The MRP 2.0 defines green infrastructure as: Infrastructure that uses vegetation, soils, and natural processes to manage water and create healthier urban environments that mimic nature by soaking up and storing water. Following this definition to its natural conclusion would mean turning the urban landscape of San Mateo County back into green fields. Clearly, that cannot happen, but every action to permeate the hardened urban surfaces and once more expose the soil to the natural precipitation would move our environment further in that direction.

1.1.1 THE ROLE OF STORMWATER MANAGEMENT

This endeavor falls generally under the umbrella of stormwater management, but it also stretches the meaning of stormwater management as municipalities have long envisioned it. Over the past century of urban expansion, stormwater management meant collecting and conveying "nuisance" runoff to receiving waters. The revisions to the Clean Water Act in the late 1980s and the first NPDES[1] permits for MS4s[2] in the early 1990s are serving to redefine stormwater management profoundly. Over the past two decades the trend in the NPDES permits has become clear – municipalities must change how they view their roles as stormwater managers. Where they had once focused strictly on traditional public infrastructure, NPDES now pushes them to focus on other practices (public AND private) such as pest management, enforcing commercial and industrial discharges, and construction sites – later growing to permanent controls on new development (including low impact development, hydrograph modification, capture and reuse), trash capture, and, finally, green infrastructure (GI). MRP 3.0 and 4.0 promise to move further along this path.

But just when more and more municipalities are realizing that stormwater management should be considered an enterprise or utility on par with water and sewer utilities, others are beginning to realize that stormwater management may have already outgrown "utility" status. It may not actually fit neatly inside the box of a discrete enterprise but must permeate through all their planning and land use responsibilities as well. It is also pushing the limits of what a municipality is empowered to do regarding behavior and practices on private property. This is manifest in the range of documents that make up the Green Infrastructure Plans.

[1] Acronym stands for the National Pollutant Discharge Elimination System from the Clean Water Act. Permits are issued under this system to municipalities and other entities that discharge stormwater to receiving waters (creeks, bays, etc.).

[2] Acronym stands for municipal separate storm sewer systems.

1.1.2 GREEN INFRASTRUCTURE STRETCHES PRIOR FUNDING MODELS

Funding for GI is no less vexing. Under the old model, stormwater funding was for management and upgrade/expansion of traditional public stormwater infrastructure (inlets, pipes, pump stations, creeks, channels, and levees). GI expands on the concepts of low impact development and hydrograph modification for private development sites and applies them to the broader universe of infrastructure in general – both public and private – and the funding models for these activities are not well developed.

Traditional stormwater funding has always been a challenging field with many hurdles that are changing as rapidly as the regulations pertaining to stormwater quality. Dedicated and sustainable stormwater funding is usually found in the form of a property-related fee (similar to water and sewer fees). Proposition 218 requires these to be focused around services provided and each property's share of the cost of those services. GI expands the universe of infrastructure beyond the traditional drainage facilities to roads, landscaped areas and other facilities. As a result, great care must be taken as traditional stormwater funding sources are applied to the GI goals. In addition, there are inherent difficulties in applying public funding to private facilities, which will necessarily play a role in meeting the GI goals.

Proposition 218 was a constitutional amendment approved by California voters in 1996 and was intended to make it more difficult for municipalities to raise taxes, assessments and fees (such as property-related fees). As currently interpreted by the courts, Proposition 218 requires that stormwater fees must be approved through a ballot measure – a much higher threshold than for the sister utilities of water, sewer and refuse collection which must only conduct a public hearing. The result is that in the past two decades, only a handful of municipalities have been able to put any new stormwater revenue mechanisms in place. This has served to make stormwater a second-class utility and has dealt a serious blow to achieving the "One Water" goals that are so important to solving challenges such as supply shortages and pollution.

This report looks into common existing funding mechanisms (fees, taxes, developer fees, etc.) as well as recently pioneered funding strategies such as alternative compliance funds, enhanced infrastructure finance districts, etc. Many municipalities are finding that no single source of revenue is adequate to fund its stormwater needs, and GI funding will be no different. It is expected that the most successful funding strategy will be a "portfolio" approach containing multiple funding sources. The end product will be a tool box of options.

1.2 BACKGROUND

The City/County Association of Governments of San Mateo County (C/CAG), a joint powers agency whose members are the County of San Mateo and the 20 incorporated cities and towns, administers the San Mateo Countywide Water Pollution Prevention Program (Countywide Program) to assist its member agencies with meeting requirements to reduce pollutants in stormwater runoff. These requirements are contained in the San Francisco Bay Regional Water Quality Control Board's (Regional Water Board) Municipal Regional Permit (MRP 2.0) and include specific provisions for addressing key pollutants of concern, including mercury, PCBs (polychlorinated biphenyls), and trash. The MRP 2.0 also requires jurisdictions to transition from gray, or piped, infrastructure storm

drainage systems to green, or landscape-based, systems that capture, treat, and infiltrate runoff – Green Infrastructure.

The MRP 2.0 defines GI as: Infrastructure that uses vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a city or county, 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 site, GI refers to stormwater management systems that mimic nature by soaking up and storing water.

To aid jurisdictions in transitioning from gray to green infrastructure, MRP 2.0 requires each agency to prepare and adopt a GI Plan by September 2019. The Regional Water Board describes the purpose of the GI Plans as follows:

- Over the long term, the Plan is intended to describe how the Permittees will shift their impervious surfaces and storm drain infrastructure from gray, or traditional storm drain infrastructure where runoff flows directly into the storm drain and then the receiving water, to green – that is, a more resilient, sustainable system 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 clean stormwater runoff; and
- The Plan shall also identify means and methods to prioritize particular areas and projects within each Permittee's jurisdiction, at appropriate geographic and time scales, for implementation of GI projects. Further, it shall include means and methods to track the area within each Permittee's jurisdiction that is treated by GI controls and the amount of directly connected impervious area.

The GI Plan is required to include targets for the amount of impervious surface to be retrofitted over time in order to achieve specific reductions in mercury and PCBs discharging to San Francisco Bay. It also must address policies, guidance, funding and other means for jurisdictions to ensure implementation, operation, and maintenance of sufficient GI, to meet these target water quality thresholds.

1.3 GOALS OF THIS REPORT

This report builds on C/CAG's 2014 efforts to develop a dedicated and sustainable funding source. Although that effort has not yet moved to the implementation stage, it did produce a Funding Options Report in 2014 that identified a number of traditional stormwater funding sources. This report is not intended to duplicate that 2014 effort, but rather update it as necessary and supplement it with strategies more in line with GI challenges.

The MRP 2.0 provision C.3.j.i(2)(k) requires a GI Plan to include "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." While other sub-tasks of the project identified a prioritized list of potential public GI projects and estimated the potential redevelopment of private parcels (which would require use of low impact development, or "LID") on a drainage-area-specific

basis, this Sub-Task (5.7) will provide an evaluation of funding sources that could potentially pair with the types of projects identified.

It is the goal of this report to identify and evaluate the feasibility of various funding strategies to enable member agencies to complete their GI Plans in a thorough and timely manner. This report will provide a general overview of funding mechanisms common to stormwater management, with keys to how they relate to GI.

1.4 REPORT STRUCTURE

- **Chapter 2** provides a background of the overall GI planning efforts by C/CAG including general discussion of the three types of funding needs (Planning, Capital and Operations and Maintenance).
- **Chapters 3 and 4** discuss various funding opportunities and strategies. These are grouped into two categories: Traditional funding strategies (such as fees, taxes and assessments), Chapter 3; and potential strategies for meeting GI needs, Chapter 4.
- **Chapter 5** provides a summary and a set of recommendations.
- **Appendices** include:
    - A summary matrix of the various funding mechanisms intended as a quick reference guide to member agencies to help them keep sight of the broad scope of funding possibilities;
    - An alternative compliance case study; and
    - The 2014 C/CAG report: Potential Funding Source Analysis and Recommendations.

It is worth noting that the summary matrix in Appendix A contains some additional information such as pros and cons and applicability to costs for staff, planning, capital and operations and maintenance ("O&M"). This matrix should be considered a key document containing unique information.

2 OVERVIEW OF FUNDING NEEDS

As member agencies have developed early elements of their GI Plans, it has become evident that downstream funding needs will be substantial and varied in its scope. GI, by its very nature, is a flexible and variable approach to reducing stormwater pollutants, and therefore will continue to evolve in the coming years in its efficacy, costs, and approaches. It is difficult to assign dollar amounts to some of the elements at this stage, but below we discuss some of the factors that need to be considered.

By way of structure, we have divided the task into three primary elements: Planning needs; capital improvement needs; and operations and maintenance needs. However, as funding is contemplated it is worth noting that not all of these elements can be funded by all funding sources. For example, bond funding is typically only applicable to capital improvement programs and cannot fund early planning or operations demands downstream. Appendix A contains a matrix of funding sources that cross references each source against the types of activities to which it does or does not apply. This factor should be considered as the GI plans are finalized.

2.1 PLANNING NEEDS

2.1.1 PLANNING EFFORTS TO DATE

There has been a substantial planning effort underway since the issuance of MRP 2.0 to assist member agencies to develop their GI Plans and educate staff and elected officials. This has included the formation of the Technical Advisory Committee to help guide the countywide effort to provide frameworks or work plans for member agencies; and conducting staff workshops and briefings for municipal officials. The planning effort has developed or updated several major documents, collectively referred to as the GreenSuite, to help guide future GI efforts including:

- Green Infrastructure Design Guide:
  - Topics include policy and overview, buildings and sites, sustainable streets, implementation, operations and maintenance among others.
  - Appendices include a glossary, references, typical GI details, specifications for GI materials, O&M checklists, and this GI Funding Nexus Evaluation.
- Regulated Projects Guide

2.1.2 FUTURE PLANNING EFFORTS

Looking forward, member agencies will need to continue to update and supplement these planning documents in order to keep pace with ongoing and future MRP requirements and the information needs of municipal staff to implement GI projects. In addition, each member agency will be required to track and document GI implementation over time. This includes tracking planned and implemented projects and modeling pollutant loads reduced for compliance purposes. Finally, there will be ongoing efforts to coordinate with C/CAG and BASMAA groups in coming years to coordinate regionally consistent approaches to GI planning and implementation.

Also included in the planning category are the ongoing Education and Outreach efforts to help educate the public, developers, agency staff, and elected officials on GI and LID planning, policy, design and implementation.

2.2 CAPITAL IMPROVEMENT NEEDS

MRP 2.0 Provision C.3.h.i.(2)(a) requires each member agency's GI Plan to include the identification of potential and planned GI projects, both public and private, on a drainage-area specific basis for implementation and assessment of potential load reductions by 2020, 2030, and 2040. On the public-sector side, the GI Plans call for the routine incorporation of GI into capital improvement projects to help meet the pollutant reduction requirements. On the private-sector side, development and redevelopment projects have been required to incorporate LID features into project proposals for more than a decade.

C/CAG has worked with its member agencies to define the methods for moving from the long-term planning and estimating of performance of future GI through to the tracking and modeling of actual construction and performance over time. For public sector projects, C/CAG established prioritization criteria and identified potential projects utilizing a methodology for bridging the long-range generalized planning with identification of suitable potential for potential GI projects on public lands using clear and documented assumptions that will allow member agencies to develop capital improvement projects that incorporate GI.

A summary of planned GI projects as well as other projects targeted for retrofitting to impervious surfaces is still being developed.

Funding for capital projects can be obtained from most types of sources including sustainable fees, taxes and assessments, one-time grants and loans, and through creative partnerships and in-lieu programs.

2.3 OPERATIONS AND MAINTENANCE NEEDS

As with all built features, GI will require O&M efforts to keep the improvements in a serviceable condition. However, GI has the added requirement that the "green" element remain as effective as designed. Although many GI improvements appear to be landscape features when viewed from the surface, they are in fact types of mini-treatment facilities, which have more specialized maintenance requirements than typical landscape features. Therefore, the O&M efforts and costs can be substantial and may require a different mix of skills and trained labor to undertake the maintenance. To better define the maintenance needs, C/CAG is developing an Operations and Maintenance Manual.

Funding for O&M is often the most restricted as it rarely can be sustained from grant funds or bond programs. Sustainable fees, taxes and assessments are the most common ways to fund O&M, but those mechanisms often require a ballot measure and therefore are difficult to secure at meaningful levels.

3 TRADITIONAL TYPES OF STORMWATER PROGRAM FUNDING

In 2014 C/CAG engaged SCI to study and make recommendations on strategies to fund water pollution prevention programs required in the previous MRP. One of the deliverables from that effort was the Potential Funding Sources Analysis and Recommendations Report, which described, analyzed and evaluated various funding mechanism alternatives available for stormwater programs. That 2014 Report forms a solid basis from which to evaluate funding options for GI as well. This section will provide a brief overview of the 2014 Report, which is included herein as Appendix C. This discussion will also provide some important updates to the 2014 Report – particularly regarding Senate Bill 231.

There are several ways to categorize funding. This report looks at whether funding is ongoing funding, one-time funding, or debt financing (one-time funds that are repaid in an ongoing manner). This report also distinguishes between balloted and non-balloted, as any funding source that requires a ballot measure will obviously bring with it more challenges. The matrix below helps to visualize these two axes and illustrates a few examples of each.

	Sustainable / Ongoing	One-Time	Long-Term Debt
Balloted	Taxes, Fees & Assessments		GO Bonds *
Non-Balloted	Regulatory Fees Re-Alignment Developer Fees	Grants	COPs ** Revolving Fund

** General Obligation Bonds; ** Certificates of Participation*

3.1 LOCAL FUNDING STRATEGIES THAT REQUIRE A BALLOTED PROCESS

There are two basic types of balloted measures appropriate for stormwater funding, namely, special taxes and property-related fees. Successfully implemented balloted approaches have the greatest capacity to significantly and reliably fund stormwater management, but they are often very challenging. Generally, the most important key to a successful ballot measure is to propose a project or program that is seen by the voting community to have a value commensurate with the tax or fee. The two greatest challenges are to craft a measure that meets this threshold, and then to effectively communicate the information to the community.

Since balloted funding mechanisms tend to be the most flexible and sustainable, they are often seen as underpinning an agency's entire program. Not only can they pay directly for services or projects, but a dedicated and sustainable revenue stream can also be leveraged to help secure grants, loans, partnerships, and many other opportunities that present themselves. Without such a dedicated revenue stream, those opportunities must often be missed.

3.1.1 SPECIAL TAXES

Special taxes are decided by registered voters and require a two-thirds majority for approval. Traditionally, special taxes have been decided at polling places corresponding with primary and general elections. More recently, however, local governments have had success with single issue special taxes by conducting them entirely by mail and not during primary or general elections. Special taxes are well known to Californians and are utilized for all manner of services, projects, and programs. They are usually legally very stout and flexible and can support an issuance of debt such as loans or bonds in most cases.

There are several types of special taxes, but the most common for stormwater services are parcel taxes. Parcel taxes are levied against real property and can be calibrated for some parcel metric such as acreage, size of building, impermeable area, type of use, or simply a flat rate where each parcel pays the same amount. One thing that distinguishes taxes from fees is that taxes do not necessarily need to have a direct nexus between the amount of the tax and the service received. As such, tax mechanisms can exempt certain types of property (e.g., public property) or owners (e.g., seniors or low income). While exemptions may reduce revenues somewhat, they are usually very popular with voters. Examples of parcel taxes that have been successfully implemented for stormwater services are in the cities of Culver City, Los Angeles, Santa Cruz, and Santa Monica. The most recent successful parcel tax measure was in Los Angeles County where the Flood Control agency passed a tax that will raise as much as $300 million per year for projects that would capture, treat and recycle rainwater.

Other types of special taxes include sales, business license, vehicle license, utility users, and transient occupancy taxes. These types can also be implemented as a general (not special) tax, where they would only require a simple 50% majority for passage. But to qualify as a general tax, it must be pledged only for an agency's general fund with no strings attached, in which case any GI or stormwater services must compete with other general funded services such as police, fire and parks. Although a general tax requires only a simple majority, voters tend to show better support for special taxes where the purpose of the tax is explicitly identified.

3.1.2 PROPERTY-RELATED FEES

A Proposition 218-compliant, property owner balloted, property-related fee is a very viable revenue mechanism to fund stormwater programs. Property-related fees are decided by a mailed vote of the property owners with a simple majority (50%) threshold required for approval, with each parcel getting one vote. The property-related fee process is generally not as well known, and it is more time consuming and is more expensive than the special tax process, but it is much more common for funding stormwater management, and in many communities, more suitable to meet the voter approval threshold. One of the more successful municipalities to implement a property-related fee for stormwater services is Palo Alto, where they have succeeded twice.

As they pertain to GI, property-related fees remain a flexible and stout funding source. However, under Proposition 218 property-related fees must apply to defined services within a defined service area, and the costs of providing those services must be spread equitably over the properties that receive the services. The scope of GI is stretching the traditional boundaries of stormwater services,

and great care must be taken when crafting a property-related stormwater fee structure. But just as water agencies have embraced conservation efforts and watershed habitat protections, so, too, can stormwater agencies carefully expand into the area of GI.

3.1.3 GENERAL OBLIGATION BONDS

The voting public is very familiar with general obligation (GO) bond measures, which typically come in the form of a general obligation bond and require a two-thirds majority for passage. Bonds are issued to raise funding up front and are repaid through a tax levied against property on the annual property tax bill. These levies are based on property value, so higher value properties pay a higher portion of these taxes. Because the rate of taxation is based on value, ballot measures cannot state an annual amount that would be paid by an individual. This is usually an advantage, as the voter is presented with a bond amount (e.g., $25 million bond measure) for a project or program, and votes based on that without knowing exactly what it will cost them or for how long.

One primary restriction on GO bonds is that they can only be used for capital projects. While that includes land acquisition, planning, design and construction, the costs for maintenance and operations cannot be paid from the bond proceeds.

Selling bonds for GI has become more viable this year with a clarification from the Government Accounting Standards Board (Statement #62, or "GASB 62") that distributed infrastructure can be considered an asset upon which an agency can capitalize and therefore more easily be included in a bonded debt program. Distributed infrastructure is a term for smaller improvements that are often distributed around an area – sometimes on private property – like green roofs, rain barrels, bioswales, and pervious pavements. GASB goes so far as to include the cost of rebate programs for distributed infrastructure as well.

Examples of stormwater-related GO bonds successfully implemented include Berkeley's Measure M ($30 million – partly for GI, 2012) and Los Angeles' Measure O ($500 million, 2004).

3.1.4 CHALLENGES WITH BALLOTED APPROACHES

Ballot measures are inherently political and are often outside of the areas of experience and expertise of most stormwater managers. For any measure to have a fair chance, the community must be well informed, and their preferences and expectations must be woven into the measure. This requires significant outreach and research, which is something best handled by specialized consultants, and can take considerable time and resources.

Over the past 15 years, there have been fewer than two dozen community-wide measures attempted for stormwater throughout California, and the success rate is just over 50%. Very few attempts have been made to pass a stormwater ballot measure even though there may be over 500 agencies with stormwater needs, because success is not assured. Clearly this is a high bar to clear, and any agency considering a balloted approach must carefully weigh the pros and cons before proceeding.

Funding strategies are discussed in greater detail in Appendix C, which also includes a list of balloted efforts throughout the State along with a discussion on why they succeeded or failed.

3.1.5 KEYS TO A SUCCESSFUL BALLOTED APPROACH

Know your needs and how to fix them: This often will come from a needs analysis or a strategic planning effort. The more popular fixes usually include capital projects that the community sees as fixing a problem they know about. For example, a new storm drain pump station that will alleviate chronic local flooding, or a spreading basin that will replenish the aquifer and create environmental habitat with some recreational opportunities.

Know your community's priorities: If the agency's needs are not seen as priorities by the community, a ballot measure will likely fail. This is usually measured by a public opinion survey, which would identify priorities as well as willingness to pay for the proposed program. Top priorities identified in the survey should be folded back into the proposed measure to demonstrate that the agency is responsive to the community.

Communicate with the voters: Community engagement must be tailored to fit the measure and the community it is designed to serve. It can range from a brief set of outreach materials (website and flyer) to a comprehensive branding and information effort that can take several months or longer, complete with town hall meetings and media coverage. Knowing your stakeholders and opinion leaders is a must, and special efforts with those groups are always recommended. Note that advocacy by a public agency is strictly forbidden by law, so legal counsel should be involved at some point to help distinguish between educational outreach and advocacy.

Know where you stand with the voters: For instance, do voters trust the agency? Do they believe that you will deliver on your promises? How have past ballot measures worked out? Know the answers to questions like these; and if you do not like the answers, figure out how to correct for that.

Plan for the needed resources: Many public agencies hire professional consultants for critical elements of this process from needs analysis to surveys and community engagement. While these consultants can be costly, it is usually well worth the expense if they can deliver a successful measure. Considerable agency staff time may also be required, since this is a very iterative process that must be presented to the public by agency representatives, not consultants.

3.2 SENATE BILL 231 – THE END OF BALLOTING FOR STORMWATER FEES?

As stated earlier, water and sewer fees are exempt from the voter approval requirements of Proposition 218. Senate Bill (SB) 231, signed by Governor Brown on October 6, 2017, provides a definition for sewer that includes storm drainage. This clarification would give stormwater management fees the same exemption from the balloting requirement that applies to sewer, water, and refuse collection fees, and would make stormwater property-related fees a non-balloted option – something very attractive to municipalities. Unfortunately, the Howard Jarvis Taxpayers Association, who authored and sponsored Proposition 218, is expected to file a lawsuit against any municipality that adopts a stormwater fee without a ballot proceeding. Therefore, the SB 231 approach must be given a very cautionary recommendation at this time. Any agency considering moving in that direction should consult with other agencies and industry groups to coordinate their efforts in a strategic manner and avoid setting an unfavorable legal precedent. C/CAG staff is keeping abreast of developments in this area and would be a good first point of contact.

3.3 LOCAL FUNDING STRATEGIES THAT DO NOT REQUIRE A BALLOTED PROCESS

Non-balloted approaches are those which can be implemented without voter approval. They can be as simple as charging a plan check fee, or as complex as realigning functional units or financial budget structures within an agency. The table below illustrates some examples of non-balloted approaches.

Type of Approach	Examples	Comments
Regulatory Fees	Plan Check Fees Inspection Fees	Proposition 26 (2010) has significantly limited the applicability.
Realignment of Services	Water Supply Sewer Refuse Collection	Leverage and integrate stormwater elements that qualify under water, sewer and/or refuse collection categories.
Business License Fees	Business License Fee	Applies to commercial operations with clear impacts on stormwater such as restaurants, vehicle repairs.
AB 1600 Fees	Developer Impact Fees	Similar to impact fees aimed at improving water and sewer systems, or parks and schools.
Integration into Projects with Existing Funding	Transportation or Utility Projects	Takes advantage of multi-benefit projects that also further stormwater goals.

While not subject to local voters' or property owners' "willingness to pay" limitations, these non-balloted approaches may encounter a certain amount of public resistance, particularly from specific groups that will be impacted by these approaches (e.g., businesses will resist additional business license fees). In addition, each one of these approaches requires that a nexus be drawn between the fee and the impact on the payer of the fee in order to not be considered a tax. Therefore, a nexus study or cost of service analysis needs to be developed in each case.

As they pertain to GI funding, developer fees and partnerships with transportation or utility projects may have the most applicability, particularly when integrated into other emerging strategies such as discussed in Section 4 of this report. Realignment of services is discussed in more detail in the following section. All these funding sources are discussed in more detail in Appendix C.

3.3.1 DEVELOPMENT IMPACT FEES

Development impact fees pose an interesting option for cities that anticipate growth of any scale. "A development impact fee is a monetary exaction other than a tax or special assessment that is charged by a local governmental agency to an applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project. (Gov. Code § 66000(b).) The legal requirements for enactment of a development impact fee program are set forth in Government Code §§ 66000-66025 (the "Mitigation

Fee Act"), the bulk of which were adopted as 1987's AB 1600 and thus are commonly referred to as "AB 1600 requirements." A development impact fee is not a tax or special assessment; by its definition, a fee is voluntary and must be reasonably related to the cost of the service provided by the local agency. If a development impact fee does not relate to the impact created by development or exceeds the reasonable cost of providing the public service, then the fee may be declared a special tax and must then be subject to a two-thirds voter approval. Developer impact fees are exactions of either money or built improvements from a developer to mitigate the impacts to the public infrastructure of that development."[3]

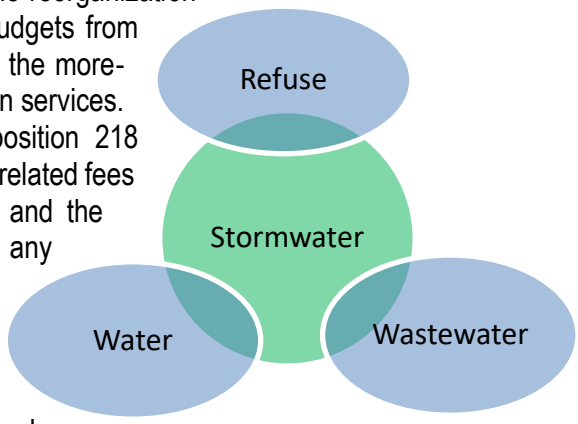
Developer fees are typically done in one of two ways: 1) through predetermined fees tied to a nexus study and charged to applicable development projects; or 2) on an ad hoc basis drafted for a particular development. While the former requires a rigorous nexus study and is often based on the expectation of significant future development, it will apply to all future development and provides a known cost for developers as they plan projects. The latter method is often attractive for municipalities that have no adopted developer fees and allows for flexibility in determining impacts and creative methods for mitigating them. However, the ad hoc method carries with it a higher burden for the agency to demonstrate the reasonable nexus and a rough proportionality to the impact created by the development project. It also deprives developers from knowing in advance the cost to their projects.

One of the impacts of new development that can be tied to a fee is that of stormwater quality. Most new development is already subject to C.3 requirements, which mitigate many of the direct stormwater pollution impacts for a particular site. Therefore, it may be difficult to demonstrate additional impacts that can be mitigated through planned GI. One way would be to tie local or regional GI needs to the community at large and include each project's fair share of the associated costs in a development fee structure for GI. Another way may be to develop an overall stormwater impact fee nexus (including GI) that can be applied to new development.

[3] *A Short Overview of Development Impact Fees*, City Attorneys Department, California League of Cities, 2003. http://www.ca-ilg.org/sites/main/files/file-attachments/resources__overviewimpactfees.pdf

3.3.2 DELIVERY OF STORMWATER SERVICES: RE-ALIGNMENT OF MUNICIPAL SERVICES

One approach for delivering stormwater services that has significant appeal is realignment. Realignment is the term used here to describe the reorganization of management, staffing, service units and/or budgets from "traditional" stormwater management services to the more-easily funded water, sewer and/or refuse collection services. This applies to the distinctions drawn in Proposition 218 between stormwater and the other three property-related fees where stormwater requires a ballot proceeding and the other three enterprises do not. Therefore, any stormwater activity that falls within the scope of the other three services can be funded by fees without a ballot proceeding.



For example, trash capture activities and infrastructure can be considered refuse collection and can be funded by garbage fees. Another example could be certain kinds of low impact development where stormwater is infiltrated into the ground where it contributes to the replenishment of the drinking water aquifer.

This may not be as easy as it seems. First, any fee structure must rely on an analysis of how costs for service are spread across property types. Second, reorganizing budgets or service units within a municipal structure can be challenging, and in many areas those non-stormwater services are delivered by special districts instead of the municipality making reorganization impossible. Finally, just because the water, wastewater or refuse collection services do not need to pursue a ballot measure to increase rates, the public's willingness to pay is still at issue and a public hearing is still required. Many rate payers pay close attention to any rate increase, and elected officials are under constant pressure to keep increases to a minimum.

3.4 GRANTS AND LOANS

3.4.1 GRANTS[4]

Federal, state, and regional grant programs have funding available to local governments to support GI efforts. These grant programs include:

- California Proposition 1 (Water Quantity, Supply, and Infrastructure Improvement Act of 2014) Stormwater Implementation Grant Program;
- US Environmental Protection Agency: San Francisco Bay Water Quality Improvement Fund;

[4] This section is taken from a Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program

- California Water Resources Control Board: 319(h) Non-Point Source Implementation Program;[5]
- California Department of Water Resources: Integrated Regional Water Management Program Implementation Grants;
- California State Parks: Land & Water Conservation Fund and Rails-to-Trails Programs;
- California Department of Forestry and Fire Protection: Urban and Community Program;
- Strategic Growth Council: Urban Greening Program;
- California Office of Emergency Services (OES) 404 Hazard Mitigation Grant Program;
- Caltrans Cooperative Implementation Agreements or Grants Program; and
- One Bay Area Grant Program (transportation projects).

Other potential grant resources that may be tapped in the future to support GI include Greenhouse Gas Reduction Funds derived from the California Cap and Trade Program.

As a result of Senate Bill 985, now incorporated into the California Water Code, stormwater capture and use projects must be part of a prioritized list of projects in a Stormwater Resource Plan in order to compete for state grant funds from any voter-approved bond measures. Advantages of using grant funding may include the following:

- Grants can fund programs or systems that would otherwise take up significant general fund revenues;
- Grants often fund new and innovative ideas that a local agency might otherwise be reluctant to take on using general funds;
- Grants can be leveraged with other sources of funding increasing the viability, benefits, and/or size of a project; and
- Successful implementation of a grant-funded project can establish a record that can lead to other grants.

Challenges with using grants as a funding approach typically include:

- Grants are opportunistic in that local governments have no control over when grant monies will become available. However, in some cases opportunities to apply for grants and the anticipated level and timeline of the funding are scheduled well in advance;
- Grants are often available only once for the same purpose, which can lead to agencies creating ever "new" programs to qualify for funds. Other "strings" can be attached to the grant creating implementation or maintenance complexities;
- Grants are competitive. Considerable resources may be required to apply for a grant with no guarantee of success;

[5] Projects or activities required by or that implement a National Pollutant Discharge Elimination System permit, including urban, area-wide stormwater programs covering discharges from a MS4, are not eligible for funding under Section 319(h) grants.

- Some level of matching funds is usually required. Some types of funds cannot be matched with other types. For example, some federal funds are pass-through via the state, but they are still considered federal and may therefore not be eligible as a match with other federal funds; and
- Most grants have a requirement for the agency to provide adequate post-project maintenance for the improvement. This can impose significant costs on the agency that are not funded by the grant.

While grant funding can help propel a GI program forward, it typically requires another source of funding to cover grant obligations such as matching funds or post-project maintenance. This understanding helps to underscore the importance of an underlying, dedicated and sustainable revenue source such as a stormwater fee or tax.

3.4.2 LOANS

Long-term debt financing can be a valuable tool to use for funding important projects and programs. It is not a source of new funding in and of itself, but rather allows an agency to leverage an ongoing revenue stream by borrowing money for immediate needs such as capital construction, which is then repaid over time. While GO bonds (discussed above) are a type of debt instrument that requires voter approval, other forms of long-term debt do not require voter approval such as certificates of participation (COPs) or loans from a state revolving fund (SRF). COPs are a type of municipal bond that usually has relatively low interest rates but is only secured by the agency's ability to repay and can have substantial administrative costs.

The California Clean Water State Revolving Fund (CWSRF) is one type of SRF that may be a good option for agencies. These loans are secured by a reliable source of revenue such as dedicated fees or taxes, and typically have below-market interest rates and very low administrative costs. In the past these loans have been for wastewater treatment plants but are now opening up to green stormwater projects. The CWSRF also has a principal forgiveness program for projects related to water or energy efficiency and stormwater runoff sustainability or mitigation projects. The program can forgive up to 50% of eligible capital costs and 75% of eligible planning costs, up to a cap of $4 million.

Debt financing for GI has become more viable this year with a clarification from the Government Accounting Standards Board (Statement #62, or "GASB 62") that distributed infrastructure can be considered an asset upon which an agency can capitalize and therefore can more easily be included in a bonded debt program. Distributed infrastructure is a term for smaller improvements that are often distributed around an area – sometimes on private property – like green roofs, rain barrels, bioswales, and pervious pavements. GASB goes so far to include the cost of rebate programs for distributed infrastructure as well.

It is important to note that while long-term debt provides immediate funding for projects, it is not a new source of funds. It simply converts a dedicated, sustainable revenue stream (e.g., fees or taxes) into near-term funding. Without the dedicated, sustainable revenue stream, long-term debt is not usually an option.

3.5 ASSESSMENTS & SPECIAL FINANCING DISTRICTS

Special financing districts are not the same as special districts, which are a form of governance with their own elected board and scope of services. Special financing districts are simply financial structures created by local governments for the purpose of levying taxes, fees, or assessments for specific improvements and/or services provided. These include benefit assessments, community facilities districts, business improvement districts, and infrastructure financing districts.

Most special financing districts require a balloting of affected property owners, but these are typically either a very small area (like a business district) or are applied to single land owners such as a developer in the process of a new development.

3.5.1 BENEFIT ASSESSMENTS

Benefit assessment districts can levy charges that correlate to special benefits conferred on property by virtue of improvements or services. These can range from landscaping, lighting, recreation facilities, parks, fire protection, mosquito abatement, and even cemeteries. Most benefit assessment districts are governed by a statute, which can vary depending on the type of service or improvement. All benefit assessments must comply with Proposition 218, which limits assessments to the special benefits conferred, but cannot be levied based on any general benefit (such as to properties outside the district boundary or to the general public at large). The portion of the benefits that are general must be funded from sources other than the benefit assessments – such as a city's general fund. This general benefit factor can become prohibitive in some cases.

As they pertain to GI, property owners in a watershed could be assessed to fund stormwater runoff management programs that provide direct benefit to properties within that watershed or sub-basin. The watershed unit may be particularly effective and equitable as programs can be tailored to address specific priorities identified within that watershed and would include the diverse socio-economic demographics from the hills to the flatlands typical to a Bay Area urban watershed.

Benefit assessments are not taxes or fees and must be approved by a weighted majority[6] of the affected property owners that cast votes. Benefit assessments typically are collected as part of the annual property tax bill.

3.5.2 COMMUNITY FACILITIES DISTRICTS (MELLO-ROOS)

Community Facilities Districts, more commonly known as "CFDs" or "Mello-Roos Districts", are a form of special tax, and must be approved by property owners or registered voters.[7] Similar to benefit assessments, these are often formed during the development process for a finite set of parcels owned by a single entity, and thus there would only be a single ballot. Oftentimes, formation of a CFD will be included in the conditions of approval for a development, so the balloting is more of a formality.

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[6] In a ballot proceeding for a benefit assessment, ballots are weighted by the amount of the assessment to be levied. As a result, property owners faced with large assessments wield more weight in the balloting.

[7] A CFD tax is balloted to property owners if there are fewer than 12 registered voters in the district. Otherwise the balloting is by registered voters.

As a tax, the structure of the charges and the use of the funding is much more flexible than for a benefit assessment. For instance, publicly-owned property can be exempted as well as other classes of properties (such as commercial properties in a school-based CFD). In addition, general benefit does not need to be considered or funded from other sources. Finally, CFD taxes are easily structured to allow for future expansion to other properties that are developed in the future. They need not be contiguous to the original (or seed) development.

As they pertain to GI, the flexibility inherent in a CFD tax would allow flexibility in the types of improvements or services that are funded. However, as a tool primarily used for new development, the proceeds may be restricted to improvements and services for those new developments only.

3.5.3 BUSINESS IMPROVEMENT DISTRICTS

A Business Improvement District (BID) is a mechanism in which businesses and property owners tax themselves and manage the funds to build or maintain certain assets. The BID can be set up and administered by the community members. For example, the Dogpatch and Northwest Potrero Hill Green Benefit District (http://dnwph-gbd.org) is a Green Business Improvement District in San Francisco developed to fund and maintain the public-realm landscaping in the area. The landscape staff used to maintain this landscaping can be trained in GI maintenance practices and qualified in sustainable landscaping services.

3.5.4 ENHANCED INFRASTRUCTURE FINANCING DISTRICTS

In 2014, the California Legislature approved the Enhanced Infrastructure Financing District (EIFD) structure. EIFDs have emerged as a potential replacement for Redevelopment Agencies which were eliminated in 2012. Cities and counties may create EIFDs to capture *ad valorem* tax increments, similar to the now-defunct Redevelopment Agencies, to invest within the specific District boundaries or out-of-area projects that have a tangible benefit to the District. EIFDs are not limited to blighted areas and can directly, or through bond financing, fund local infrastructure including highways, transit, water systems, sewer projects, flood control, libraries, parks, and solid waste facilities. However, similar to grant funding and certain bond financing, EIFD funding cannot be used for ongoing operations and maintenance of facilities.

The tax increment is defined as the increase in ad valorem property taxes due to increases in assessed value associated with improvements. However, the one percent ad valorem tax is split amongst many local agencies with school districts typically receiving approximately 50% of that revenue – a share that is not eligible for EIFD participation. Other tax-sharing agencies can participate in an EIFD, but that participation is strictly voluntary. As a result, the revenue potential of an EIFD is estimated to be about 20% of a comparable redevelopment agency.

The formation of an EIFD requires consent from all the participating local agencies through a Joint Powers Authority but does not require voter approval unless bonds are to be issued. Other requirements include the preparation of an Infrastructure Financing Plan and formation of a Public Finance Authority. If an EIFD is proposed for an area that had been a redevelopment agency, the successor agency must have a Finding of Completion for all redevelopment obligations prior to

receiving any new tax increment. An EIFD can run for up to 45 years, which provides flexibility in the issuance of bonded debt.

This financing structure may be a good fit for localized areas where stormwater infrastructure and water quality are major concerns – particularly environmental clean-up on private properties. An EIFD can be created with multiple municipalities, so it can span political boundaries making it a good fit for a watershed approach to GI funding. However, no EIFDs are known to include multiple jurisdictions at this time.

EIFDs also present a few challenges. Very few EIFDs have been formed in the State, and GI has not been highlighted in any of the plans to date (see table below showing the types of improvements of existing EIFDs). The EIFD concept is aimed at funding improvements that spur development in a district, which in turn increases the assessed property value (and thus the property tax revenues). The improvements are therefore seen as an economic engine that generates its own revenue (increased property taxes, or tax increment). Whether GI can be viewed as a viable "economic engine" has not yet been demonstrated, but the case could possibly be made.

Another drawback for EIFDs is the pace of revenues. Because the "economic engine" must come before the properties increase in value, funding is typically provided through bonds (or debt of some sort). This requires a revenue stream of substance and reliable pace in order to qualify for reasonable bond rates. For this reason, EIFDs are typically structured around major, transformative community infrastructure projects such as transportation (e.g., rail station, new freeway access) or primary infrastructure such as streets, sidewalks, parks, water, sewer and other utilities. While GI may fit well within a suite of infrastructure projects, it may be a weak "economic engine" on its own. Furthermore, any agency contemplating the formation of an EIFD (a cumbersome and expensive task) is likely to favor the more high-powered engines. In addition, EIFDs typically rely on other revenue sources such as grants, bonds, assessments, taxes and private sources in order to help cover revenue gaps with the tax increment revenues.

One possible example of a GI-based EIFD could be an industrial area that requires mitigation for PCBs, mercury or other pollutants where the mitigation measure may lie outside the area (e.g., a regional GI project). Since EIFD proceeds may be spent outside the district when there is a tangible benefit to the district, the EIFD may fund part or all of the GI project. Furthermore, if there are fewer than 12 registered voters in the EIFD, the approval for bonds would be a landowner (not registered voter) election – oftentimes more politically viable. Finally, the EIFD may also impose other taxes (subject to voter approval) that could serve as seed-money funding until the tax increment revenues are mature enough to support bonds.

SUMMARY OF PROS AND CONS

Pros	Cons
No voter approval required (unless bonds are to be issued)	Voter approval is required if bonds are to be issued (55% majority)
No blight finding is required	Revenue potential is about 20% of a comparable RDA
Proceeds can be used for a wide variety of improvements	Proceeds cannot be used for operations, maintenance and repairs
May be used with other funding sources such as grants, bonds, assessments, taxes or private sources	Revenues start slow and build only after properties are developed - bonds may have to be delayed until revenues can support them
Proceeds can be spent outside district if a tangible benefit is provided to district	CEQA review may be required
Multiple agencies can join together	Getting approval from other agencies can be difficult
As a legal government entity, an EIFD may impose other taxes and assessments (subject to voter approval)	Improvements must have a 15-year life
No low- or moderate-income housing requirement	
Areas need not be contiguous	

EXAMPLES OF EIFDS

Only a handful of cities have formed an EIFD. Three recent EIFDs are highlighted in the table below to illustrate the process, financial structure, revenue potential and other features of an EIFD.

City	West Sacramento	La Verne	Otay Mesa (San Diego)
Other Agencies	none	none	none
Sub Areas	14	3	none
Size (acres)	4,144	144	~ 9,500
Duration	45 years	45 years	45 years
Housing Relocations?	none	none	none
Improvements	54% - Transportation 23% - Econ Dev 10% - Parks & Rec 10% - Parks & Rec 10% - Parks & Rec 5% - Parking 4% - City Buildings 4% - Water, Sewer, Drainage	57% - Water 21% - Ped Access 9% - Streets & Traffic 7% - Sewer 6% - Other Utility	75% - Transportation 17% - Park 3% - Water & Sewer 2% - Police 2% - Fire 2% - Library
Drainage Improvements	$5m (0.3%)	not specified	not specified
Cost of Improvements	$1.1b (2017)	$33m (2017)	$1.2b (2014)
Other Funding?	yes	yes	
Cumul Tax Increment	$1.23b (2017)	~ $50m (2017)	~ $500m (2014)

For a summary of EIFDs and the processes involved with formation, please visit the League of California Cities website:
https://www.cacities.org/Policy-Advocacy/Hot-Issues/New-Tax-Increment-Tools

4 POTENTIAL STRATEGIES FOR MEETING GREEN INFRASTRUCTURE NEEDS

As discussed above, traditional stormwater funding options were already out of step with a contemporary view of stormwater management imperatives before GI became a priority. Once again, the "need" outstrips the "ability to fund" as GI expands the horizon of possibilities in managing our built environment and the role stormwater and other water elements play in that endeavor. In this section, several emerging strategies are discussed that have been adapted to GI and other stormwater approaches both inside and outside of California. The have been grouped into two categories:

4.1 ALTERNATIVE COMPLIANCE

The MRP 2.0 contains a vast array of elements for which compliance is required, both for private development and for public agencies. For many individual cases, compliance may be impractical or impossible, and the Regional Water Board has shown a willingness to consider alternate compliance in one form or another. Provision C.3.e.i. of the MRP 2.0 allows the following alternative compliance options:

- Construction of a joint stormwater treatment facility;[8]
- Construction of a stormwater treatment system off-site (on public or other private property); and
- Payment of an in-lieu fee[9] for a regional project (on another public or private property).

Each option comes with obligations for municipal staff in addition to other pros and cons for the municipality and developer. Currently, qualified urban infill redevelopment projects in the Bay Area

[8] The MRP 2.0 defines Joint Stormwater Treatment Facility as a facility built to treat the combined runoff from two or more Regulated Projects.

[9] The MRP 2.0 defines In-lieu Fees as a monetary amount necessary to provide both hydraulically-sized treatment (in accordance with Provision C.3.d.) with LID treatment measures of an equivalent quantity of stormwater runoff and pollutant loading, and a proportional share of the operation and maintenance costs of the Regional Project.

that have site constraints that limit use of LID treatment measures often take advantage of the Special Project option in MRP 2.0 Provision C.3.e.ii. However, the Special Project option may not be included in future MRPs, and municipalities may want to start taking advantage of the alternative compliance option to fund and/or construct municipal GI projects. Some municipalities may have to update the stormwater section of their municipal codes to allow for one or more of these alternative compliance options.[10]

There have been numerous examples of off-site construction of LID facilities in the Bay Area. One such example is in the City of Emeryville in 2017. A summary of this project was presented as a case study in the Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program. This is reproduced in Appendix B.

4.1.1 IN-LIEU FEE CHALLENGES

In-lieu fees are attractive in the GI arena as they could be a source of funding for regional projects that help an agency meet their GI Plan goals. There are two basic ways to collect in-lieu fees for alternative compliance: Ad hoc approach; and structured approach.

The ad hoc approach is done on a case-by-case basis and is usually negotiated with an individual developer depending on the financial and logistical circumstances. This presents challenges and opportunities, but the agency's leverage is limited to its discretionary authority and compliance with local regulations and the MRP 2.0. One advantage is that the outcome can be customized to the project. For instance, compliance could be severed into any (or all) of three options: on-site construction; off-site construction; and in-lieu fee contribution. An ad hoc approach allows for out-of-the-box thinking. This is often the course followed for agencies that have few and sporadic development projects. But for agencies with a steady stream of development, it can be laborious to the point of overwhelming.

A structured approach would typically follow the developer fee model (AB 1600). This would end up with a set of in-lieu fees adopted and published in the agency's master fee schedule. However, the path to that end must include a comprehensive nexus study complete with goals, objectives, project lists, and a reasoned methodology linking development impacts or compliance needs to projects – possibly by geographic or watershed zones – and options for variations and other administrative chores. For agencies that are larger and experience numerous development projects (particularly small to midsized projects), the effort to adopt in-lieu fees would be worthwhile. It allows staff to simply apply the scheduled fees to each project as it comes around. At the same time, for larger projects that enter into a developer agreement, those adopted fees could be set aside for a more creative or appropriate ad hoc approach.

One key element to an in-lieu fee program is the identification of in-lieu projects. Since GI is still an emerging art or science, there are few templates available to identify GI projects and their life-cycle

[10] Taken from the Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program.

costs. However, the GI Plans being developed in conjunction with this report will go a long way toward meeting this challenge.

4.1.2 CREDIT TRADING PROGRAM

Another type of alternative compliance program is a credit trading program. Credits are created by one property owner whose project has the capacity to overbuild the on-site LID, which is then traded to other property owners who may not be able to meet their MRP 2.0 requirements. The program is typically managed by a government agency and can create incentives to treat stormwater in excess of the NDPES permit requirements on regulated sites, while also creating incentives to install systems that treat stormwater on non-regulated sites. One example of a credit trading program is the one developed by Washington D.C.'s Department of Energy and the Environment.[11] The MRP 2.0 does not specifically mention credit trading programs, but such a program could be developed in consultation with the Regional Water Board as a form of alternative compliance.[12]

As this applies to GI, the public agency could become more than just the broker of credits and become a creator or consumer of credits to be applied toward its GI goals. These credits would be a form of currency, analogous to the in-lieu fees described in the previous section.

4.2 PARTNERSHIPS AND OTHER STRATEGIES

By teaming up with other entities, an agency may not generate additional funding directly, but partnerships offer many other benefits that can aid in the overall resources needed to deliver projects such as GI improvements. These can come in the form of economy-of-scale savings or multi-benefit projects that can achieve multiple goals for a single price. Several such strategies, as well as some other beneficial strategies, are discussed below.

4.2.1 MULTI-AGENCY PARTNERSHIPS

Some resources and project opportunities do not match agency boundaries, and multi-agency partnerships can take advantage of those situations. For example, regional projects are a natural fit for multi-agency partnerships. Every agency tends to have strengths and weaknesses: Some are excellent at grant writing and obtaining grants but lack in project delivery capacity or local environmental conditions that fit certain grants (such as GI opportunities), while other agencies may have complementary strengths. By sharing resources and funding, regional projects can be delivered more efficiently – "more bang for the buck." Economy-of-scale savings can help cut costs – in some cases substantially – and GI projects and programs are no exception.

Challenges and opportunities abound in such partnerships. For example, developing mechanisms for sharing the planning, capital, operations and maintenance and administrative chores can be challenging. On the other hand, these types of projects can be an opportunity to be either a generator of trading credits or a way to invest trading credits (as described in an earlier section). In addition, such partnerships can be a source of multi-benefit projects – projects that can achieve GI goals as well as other important public and private goals.

[11] https://doee.dc.gov/src

[12] Taken from the Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program.

4.2.2 TRANSPORTATION OPPORTUNITIES

For more than ten years, local development projects have been required to incorporate some sort of LID and hydrograph modification features. More recently, transportation projects have come under NPDES requirements to include similar elements. The complete streets and green streets movements have brought more attention to incorporating environmental mitigation elements, such as LID, into traditional transportation projects – even where NPDES permits do not require it. The resulting multi-benefit projects have begun to demonstrate how transportation funding can be leveraged to satisfy stormwater – and GI – goals economically.

In San Mateo County, where the governing body for transportation funding (C/CAG) is the same as for NPDES compliance, there have been many examples of transportation funds being leveraged to include stormwater quality elements. Even for federally funded projects, Caltrans is becoming more flexible in these applications. One example is the Active Transportation funding.

4.2.3 CALTRANS MITIGATION COLLABORATION

Caltrans operates under its own statewide NPDES permit in parallel with municipal permitees. In many cases, Caltrans and local agencies operate along the same drainage system with one discharging into the other's facilities. Thus, NPDES requirements are sometimes a shared obligation. In some cases, Caltrans has funding available to mitigate various pollutant loading that can be shared with local agencies through Cooperative Implementation Agreements to pursue local or regional GI projects. In this way, Caltrans can often meet its pollutant load mitigation requirements outside their limited rights of way while benefiting local watershed objectives using Caltrans funding in partnership with the local agencies.

4.2.4 PUBLIC-PRIVATE PARTNERSHIPS (P3)[13]

Public-Private Partnerships (P3s) have the potential to help many communities optimize their limited resources through agreements with private parties to help build and maintain their public infrastructure. P3s have successfully designed, built, and maintained many types of public infrastructure such as roads and drinking water/wastewater utilities across the U.S. Until a few years ago, there were no efforts to develop P3s specifically for stormwater management or Clean Water Act requirements.

The EPA Region 3 Water Protection Division (WPD), in the mid-Atlantic region, has been researching, benchmarking, and evaluating P3s for their potential adaptation and use in the Chesapeake Bay watershed. On December 6, 2012, the EPA Region 3 WPD hosted a P3 Experts Roundtable in Philadelphia, PA. The goal of the P3 Roundtable was to provide a forum for a targeted group of private sector representatives to discuss in detail the feasibility, practicality, and benefits of using P3s to assist jurisdictions in the finance, design, construction, and O&M of an urban stormwater retrofit program. The results of this Roundtable were published in "A Guide for Local Governments," the foundation and approach for applying a stormwater P3 model across the Chesapeake Bay

[13] This section is taken from the Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program.

watershed. This guide provides communities with an opportunity to review the capacity and potential to develop a P3 program to help "close the gap" between current resources and the funding that will be required to meet stormwater regulatory commitments and community stormwater management needs. In addition, this guide and the tools presented (fees/rebates, credit/offset trades, and grants/subsidies) are a continuing effort, commitment, and partnership between EPA Region 3 and communities in the Chesapeake Bay region. EPA believes it will help to raise the bar and further advance the restoration goals and objectives for the Chesapeake Bay (EPA 2015).

In California, P3-enabling legislation was enacted by the state in 2007, and since then several agencies have used P3s for public infrastructure projects, such as Caltrans with the Presidio Parkway (Doyle Drive) approach to the Golden Gate Bridge in San Francisco, and the State of California judicial system with a courthouse in Long Beach.[14] However, to date, there are no known P3s that have been developed in the state for the explicit purpose of implementing GI. Prince George's County in the Chesapeake Bay watershed is the most often cited example of a GI program using a P3; however, they are able to use their stormwater fee for their program.

In California there is a scarcity of agencies that have stormwater fees that can be leveraged in a P3 program – this is related to the historically difficult Proposition 218 process of establishing dedicated stormwater funding. California stands alone in that regard – all the other states make it easier to establish such funding streams. However, under SB 231, this may be changing in the near future as a select group of municipalities begin to navigate the new options allowed under that legislation.

The non-profit organization, WCX (the West Coast Infrastructure Exchange), has promoted Prince George's P3 model in California and the west coast and released a report on water resiliency projects in 2016.[15] WCX is involved at the state and regional levels to increase awareness of P3s and other infrastructure tools.

Advantages of using P3s include:

- Leveraging public funds while minimizing impacts to a municipality's debt capacity;
- Accessing advanced technologies;
- Improved asset management;
- Drawing on private sector expertise and financing;
- Benefits to the local economic development and "green jobs;" and
- Relieving pressure on internal local government resources.

[14] For other examples of P3s in California go to: https://en.wikibooks.org/wiki/Public-Private_Partnership_Policy_Casebook
[15] http://westcoastx.com/assets/documents/Resilience%20Report/WCX%20Resilience%20Report.pdf

4.2.5 FINANCIAL CAPABILITY ASSESSMENT[16]

In 2014, the EPA implemented a process by which communities that meet certain financial capability criteria can apply for some relief in the schedules for compliance with some of their NPDES stormwater permit elements. This process is called the "Financial Capability Assessment Framework for Municipal Clean Water Act Requirements." The framework is designed to help communities develop a more accurate and complete picture of their ability to pay for Clean Water Act obligations, emphasizing factors beyond the 2% threshold for median income.

The new framework builds on EPA's 1997 "Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development," but emphasizes the role of supplemental information. The framework mentions a host of factors that can be used to assess a community's financial condition, including poverty rates, income distributions, bond ratings, debt levels, historic water and sewer rates, and more. Additionally, the framework encourages communities to examine all Clean Water Act obligations, from combined sewer overflow consent decree actions, to stormwater permit programs, to wastewater treatment plant upgrades. In this way, the framework also builds on EPA's 2012 Integrated Planning Framework.

It should be noted that this assessment does not help to generate additional funding, nor does it allow an agency to avoid compliance with permit requirements. It can allow an agency to work with the EPA and the Regional Board to work out an alternative compliance schedule depending on the community's financial capabilities.

4.2.6 VOLUNTEERS

Volunteerism is alive and well in the Bay Area. In some cases, local agencies cultivate volunteer programs to assist in achieving various goals; in other cases, volunteer groups work under the direction of non-profit organizations. Habitat stewardship and protection is one area that garners much attention from volunteers, and their work often overlaps with municipal stormwater management services. This type of activity can have some application for GI in the form of planting and caring for landscaped improvements such as rain gardens and bioswales.

While the work performed by a volunteer workforce can help a local agency meet its GI goals, it can also be difficult to recruit, oversee, and manage volunteers. Reliability and quality of work can be challenging at times, too.

Benefits of a volunteer program can include public education and building community support for the agency's stormwater management program (and possibly a future fee implementation). One example of a volunteer program that supports GI is the Green Street Steward Program in Portland, Oregon.

[16] This section is taken from the Green Infrastructure Funding Options technical memorandum dated February 13, 2018 from the Santa Clara Valley Urban Runoff Pollution Prevention Program.

5 SUMMARY, RECOMMENDATIONS AND NEXT STEPS

5.1 SUMMARY

This paper has illustrated the reasons stormwater, as a primary municipal service, is largely less valued and more difficult to fund than similar services including water, sewer, and refuse collection. While stormwater began to emerge as a fully regulated public works enterprise a few years before Proposition 218 was enacted in 1996, that new status was not widely embraced by public agencies or acknowledged by taxpayer advocates. Further, Proposition 218 was not sufficiently explicit on the key question of whether stormwater qualifies for the water, sewer, and refuse collection exemption from the voter approval requirement. This issue was settled in 2002 when the appellate court ruled[17] that any new or increased stormwater fee would be required to obtain voter approval. However, SB 231 (2017) attempts to push back on the Salinas decision, and may prove to be the vehicle for putting funding for stormwater services on par with the other water-related services.

GI funding is both a subset of and an expansion of stormwater funding. By aiming at a significant increase in permeating rain water into the ground, GI enters into the disciplines of aquifer geology, soils engineering, road pavement, transportation, landscaping, habitat management, and other onsite and offsite planning, design and construction considerations. The need to finance activities such as strategic, policy and financial planning, capital construction, and operations and maintenance across these disciplines further complicates the challenge.

No single funding strategy will typically suffice. Most agencies will need to develop several funding sources – a portfolio approach. For instance, a sustainable, dedicated fee or tax will form a solid base from which to work but is rarely sufficient in the amount of revenue that can be realized. However, that type of revenue stream can be leveraged to win grants, take on long-term debt, and pursue opportunities for partnering or participating in credit-trading programs.

5.2 RECOMMENDATIONS

Several funding mechanisms have been explored in this report. However, this is just a starting point for funding the scope of GI projects envisioned by the GI plans. As those GI plans are further drafted and adopted, the funding aspect must be explored further. It is recommended that the member agencies select a limited number of funding options or strategies for further study and identify some specific priority funding options at the outset of GI Plan adoption. For instance, the member agencies may choose to look further into enhanced infrastructure financing districts as a way to fund certain types of GI. Parcel taxes or property-related fees may be worth developing as they would form a backbone of revenue that can open many other possibilities such as grants, partnerships, and long-term debt. And developing a credit trading program can help bring public and private participants to the same table to help achieve the ambitious GI goals of the current and future MRPs.

[17] Howard Jarvis Taxpayers Association versus the City of Salinas, Sixth Appellate District, 2002.

As member agencies proceed to develop their individual GI Plans, they are encouraged to draw from the information contained in this report to select potential funding sources to investigate further. Considerations should include the following elements:

- Collaborating with neighboring agencies to explore cross-boundary opportunities such as EIFDs, watershed-based solutions and regional projects; and
- Reviewing case studies from around the country with discussion of how those examples could be tailored to meet GI goals;
- Collaborating with similar efforts in other Bay Area counties, BASMAA, and CASQA;[18]
- Cultivating support from agency leadership (Council and City Manager); and
- Understanding the costs associated with certain options.

C/CAG may also consider conducting workshops that help educate member agency staff on the nuances of funding opportunities and challenges.

It is also worth noting that, while member agencies are working on their individual GI Plans, the County and C/CAG are currently developing a proposal for a new agency to plan, build and maintain projects of regional significance which could complement, or possibly supplement, local GI needs as well as address sea level rise and flooding challenges. Funding could be provided through a countywide property tax or similar mechanism.

5.3 ADDITIONAL RESOURCES

This report is intended to introduce member agencies to many funding strategies, but there is much more to be learned in the form of case studies, work done in other regions or states, or new, emerging strategies not included here. Several other outlets of information are provided below, and the reader is urged to explore these further.

5.3.1 EPA WATER FINANCE CLEARINGHOUSE

The Environmental Protection Agency has long recognized that funding challenges can be a significant barrier to successful GI implementation. In an effort to help public agencies around the country, they have developed a website as a clearing house for information on funding for drinking water, wastewater and stormwater infrastructure. It can be found at the following url:
https://ofmpub.epa.gov/apex/wfc/f?p=165:1::::::

The Water Finance Clearinghouse includes two searchable databases: one contains available funding sources for water infrastructure and the second contains resources, such as reports, weblinks, webinars, etc., on financing mechanisms and approaches that can help communities access capital to meet their water infrastructure needs.

[18] This acronym stands for the California Stormwater Quality Association.

The Water Finance Clearinghouse was developed by EPA's Water Infrastructure Finance and Resiliency Center, an information and assistance center identifying water infrastructure financing approaches that help communities reach their public health and environmental goals.

5.3.2 S.T.O.R.M.S.

The State Water Board has launched a program entitled, "Strategy to Optimize Resource Management of Storm Water" (STORMS, or Storm Water Strategy). One key element of this program is "Project 4b, Eliminate Barriers to Funding Storm Water Programs," which will utilize focused stakeholder workshops to identify barriers to stormwater projects and strategies for local agencies to meet those challenges.

Watch for these workshops in the near future. The website can be found here:
https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

5.3.3 CASQA WHITE PAPERS

The California Stormwater Quality Association (CASQA) developed the following white papers in 2017:

- Stormwater Funding Barriers and Opportunities (CASQA 2017); and
- Use of Triple Bottom Line Analyses to Support Stormwater Objectives (CASQA 2017).

These and other resources will be posted on the CASQA Stormwater Funding Resources web page:
https://www.casqa.org/resources/funding-resources

5.3.4 RESILIENT BY DESIGN FINANCING GUIDE

The Resilient by Design ("RbD") Bay Area Challenge was "a year-long collaborative design challenge bringing together local residents, public officials and local, national and international experts to develop innovative community-based solutions that will strengthen our region's resilience to sea level rise, severe storms, flooding and earthquakes." Part of that effort included a finance advisory team that issued a Financing Guide to provide guidance to design teams. The updated guide (Financing Guide 2.0) produced at the conclusion of the process provides an excellent overview of finance options and strategies for achieving funded projects. That guide can be found at the following url:
https://static1.squarespace.com/static/579d1c16b3db2bfbd646bb4a/t/5b5f4da288251b0f228a990e/1532972477684/RBD+Financing+Guide+%28NHA+Advisors%29+Final+Version+2a.pdf

5.4 CONCLUSION

The way forward is not entirely mapped out for GI and other stormwater funding challenges. However, the tools already being used can be put to good use by a multitude of local agencies as they traverse and overcome barriers to stormwater program implementation. Developing multi-benefit projects and multi-agency partnerships will further help open funding doors as well.

Stormwater professionals, including municipal staff, elected representatives, consultants, academics, and others must redouble their efforts to effectively convey to decision-makers and the

general public the importance of water quality and the funding of water quality. No longer can stormwater professionals be satisfied with a lower status, but instead, must be creative, progressive, political, forward-thinking and demanding.

6 APPENDICES

The following pages contain three appendices:

A. Funding Matrix – A summary of the funding strategies contained in this report;

B. Alternative Compliance Case Study from Emeryville, CA; and

C. Potential Funding Source Analysis and Recommendations – Draft, C/CAG, 2014.

6.1 APPENDIX A – FUNDING MATRIX

Summary Matrix Contents

Traditional Mechanisms

Special Financing Districts

Alternative Compliance

Partnerships

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
Traditional Mechanisms								
3.1.1 Parcel Taxes	Can fund all or any parts of a GI program as stipulated in the ballot question and authorizing ordinance	Usually a 2/3 majority of voters (general taxes require only 50% majority, but can only go to General Fund)	* Flexible and legally stout; * Debt can be issued in most cases; * Most voters are familiar with Parcel Taxes	* Requires voter approval at the 2/3 level; * Must compete with other ballot measures	X	X	X	X
3.1.1 Other Special Taxes	* Business License Tax; * Vehicle License Fees; * Sales Tax; * Utility Users Tax; * Transient Occupancy Tax	Typically require a 2/3 voter approval	* Most are flexible in how they can be used; * 50% threshold can be used if a general tax	* 2/3 voter approval is diffucult to attain; * Ballot measure can be expensive; * If a general tax, then GI must compete with other General Fund needs; * Must compete with other ballot questions	X	X	X	X
3.1.2 Property-Related Fees	Establishes Storm Drainage as a separate utility service and can fund all or any parts of a GI program	Prop 218 compliance; * Rigorous rate study; * Must define services and service area; * Property owners approval for non-Water, -Sewer, and -Garbage	* Flexible and legally stout; * Debt can be issued in most cases	* Ballot measure required if for a Storm Drain service - usually voted on by property owners (Not registered voters); * Ballot measure requires significant public outreach; * Public not familiar with balloted property-related fees	X	X	X	X
3.1.3 General Obligation Bonds	Can fund Capital GI Projects through debt taken on by municipality	* Voter approval at 2/3 level; * Will need Financial Advising Consultant	* Can fund capital projects or programs with debt paid back over time through property taxes; * Typically easier to pass than a parcel tax; * Taxes based on property value, so annual obligation of individual prop owner is vague	Can only be used for capital costs - Cannot be used for O&M or staff costs		X	X	
3.2 Senate Bill 231	Allows for adoption of property-related fees without having to go to ballot	* Cost of Service Analysis * Rate Study * Prop 218 Protest Hearing	Avoids the cost and risk of a ballot measure	* Taxpayers groups vow to sue on grounds of consititution / court provisions; * Governing boards will still have political pressure to not raise rates	X	X	X	X
3.3 Regulatory Fees	Fees and charges for performing administrative activities related to GI	Cannot exceed the actual cost of performing activities such as permit issuance, inspections, on-site mitigation, etc.	* No voter approval is needed; * Usually included in Master Fee Schedule; * Most municipalities already have these in place	Does not pay for capital improvements or O&M	X			

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
3.3 Developer Impact Fees	Could incorporate fees for mitigating stormwater impacts to help fund GI - Would not relieve developer of NPDES requirements	Must comply with AB 1600 and include a rigorous nexus study	Could partially fund GI	* Requires a nexus study, often times by a consultant; * Nexus study must demonstrate connection between development and GI need; * Administration of funds requires resources; * AB 1600 requires 5-year window for programming funds;		X	X	
3.3.1 Re-Alignment	GI that promotes groundwater recharge, diversion to wastewater treatment, or trash capture can be incoporated into existing property-related fee structures without need for ballot measure	Prop 218 compliance for realignment to Water, Sewer or Garbage - must demonstrate applicability	* Existing non-balloted fee mechanisms can help pay for GI services; * Enhances integration of GI into other muncipal activities; * Causes other utilities to recognize the value of GI programs	* Limited to activities attributable to other funded revenue centers; * Prop 218 hawks could challenge; * Outside revenue center will need to raise rates to fund GI activity - politically unpopular; * Has not been widely used; * May be unpopular with Water, Sewer and Garbage managers; * Water or sewer may be handled by separate agencies, making realignment impossible	X	X	X	X
3.4.1 Grants	One-time infusion of funds for qualifying projects from State or other granting authority	* Project concept must conform to grant requirements; * Most grants are competetive with limit funding available	* Grants are outside sources of funding that do not need to be repaid; * Readiness is a plus, so can benefit a project or program that is well developed and possibly designed; * Some State Revolving Fund loans can be converted to grants through forgiveness clauses	* Projects must be tailored to grant requirements, possibly causing scope and schedule creep; * Most grants require matching funds from other sources; * Most grants require commitment to post-project O&M, but do not fund those activities; * Little control over timing - can be difficult to coordinate with other funding sources; * Competitive nature lowers chances of obtaining grant; * Applying for grants can be time-consuming and require outside help from a grant writer; * Grant administration requires significant resources	X	X	X	???

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
3.4.2 Loans	Debt instruments can help accelerate project deliver while paying off debt over time	* Must have dedicated revenue stream to pay off debt; * Must have adequate credit rating to secure reasonable interest rates; * Some Bonds require voter approval	* Can leverage a modest revenue stream by borrowing money up front for rapid project delivery while paying off debt over longer periods of time; * Accelerates project delivery and makes coorination with other funding or projects easier	* Must have dedicated revenue stream to service debt; * Some debt mechanisms require voter approval (GO Bonds, Revenue Bonds, EIFD Bonds)	???	X	X	
Special Financing Districts								
3.5.1 Benefit Assessments	Can fund the construction and maintenance of GI projects	Prop 218 compliance; * Rigorous Engineer's Report; * Must deduct general benefit from special benefit; * Property owners approval is required through a ballot proceeding (weighted voting); * Works best with new development due to voting requirement	* Flexible and legally stout; * Can fund both construction and maintenance; * Can use bonded indebtedness	* General Benefit must be separated and paid for by other sources; * Votes are weighted by assessment amount, favoring large land owners		X	X	X
3.5.2 Community Facilities Districts	Can fund the construction and maintenance of GI projects	Requires vote by majority of landowners or 2/3 majority of registered voters	* Usually formed by developer, so only one ballot is cast; * Very flexible - can fund all aspects; * Subsequent annexation is simple; * Tax rate can be tiered to allow for retirement of debt yet continue with O&M; * Annual administration is more streamline than benefit assessments	* Difficult to form in an existing community due to 2/3 majority requirement; * Known as a Mello-Roos tax - which can have a negative connotation		X	X	X
3.5.3 Business Improvement Districts	Business and property owners tax themselves to build and maintain GI improvements	Formed by a municipality through a notice and protest hearing process.	* Flexible and legally stout; * Can fund both construction and maintenance; * Local improvements can generate local support and involvement * GI improvements can also be amenities; * Can enhance sense of ownership and pride in the neighborhood when results are visible	* Cannot use debt financing; * Opposing businesses can disrupt the progress; * Can burden businesses & property owners so they are unwilling to support other funding measures		X	X	X

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
3.5.4 Enhanced Infrastructure Financing Districts (EIFD)	Captures property tax increment similar to redevelopment (RDA) for building and maintaining infrastructure like GI	With No Debt: * Establish a Public Finance Authority; * Adopt a Financing Plan; * Resolution(s) from participating agencies With Debt: * All of the above; * Get approval from at least 55% of voters in District	* Can fund many types of projects; * Does not require a vote (unless debt is part of the plan, then a 55% majority is required); * Can include multiple municipalities and special districts, so area can be tailored to needs (e.g., watersheds, high legacy pollutant areas, countywide); * Does not require a blight finding; * Can overlap with former RDA areas; * Works well with master planned community with a single land owner; * Planning costs can be paid for from proceeds (with limitations); * EIFD can go for up to 45 years	* Education districts are not permitted to participate, so revenues would be much less than RDA; * If overlapping a former RDA area, then cannot proceed until RDA is issued a finding of completion from the State; * GI is only a small piece of what an EIFD can do - it may take a back seat to other, larger community concerns; * Some agencies (i.e., special districts) may not agree to their portion of tax increment to be diverted thereby reducing revenue potential	???	X	X	
Alternative Compliance								
4.1 Alternative Compliance	Allows developers who cannot meeting GI requirements on-site to build (or pay for) off-site construction of GI elements	Municipality would need to have alternative projects ready - could bedone case-by-case	* Enables higher density development in certain areas (such as TOD and PDA); * Enables GI in public spaces that private developers would not normally participate in; * Funds can be pooled to finance larger or regional projects that can be more effective; * Post-project O&M can be added in the form of a cash payment or other consideration; * Municipality can be flexible in enforcement to allow hybrid compliance;	* Ad hoc negotiation with developers can be challenging * Agency will need to have off-site or regional projects ready to bring to negotiation	X	X	X	X

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
4.1.1 In-Lieu Fee Challenges	Allows developers who cannot meet GI requirements to pay into fund that would finance off-site or regional projects	Municipality would need to estimate the costs of of mitigation - could bedone case-by-case	* Enables higher density development in certain areas (such as TOD and PDA); * Enables GI in public spaces that private developers would not normally participate in; * Funds can be pooled to finance larger or regional projects that can be more effective; * Municipality can be flexible in enforcement to allow hybrid compliance; * Municipality may consider informal fee process, negotiating each individual developer through COA; * Funds can be leveraged for grants or loans	* Case-by-case approach can be difficult; * Developers will try to evade costs; * May need to comply with AB 1600	X	X	X	X
4.1.2 Credit Trading Programs	Creates GI Credit program for developers and others to trade GI responsibilities to others who have better capability to meet GI goals	A municipality (or regional entity) must create credit trading program including: * Definition of GI Credits; * Relative Value of Credits; * Timing of responsibilities; * Eligibility	* Allows developers who cannot meet NPDES or GI requirements to buy credits created by other entities; * Encourages developers or other entities who have greater GI capacity to over-build GI in order to sell credits in future; * Present value of future O&M costs can be incorporated into credit value; * Allows for flexibility to guide GI to areas with greater pollutant loading need; * May save developers money	* Very few Programs (to use as an example) have been implemented - particularly in California; * Credits may need to stay within same watershed; * Overbuilding GI in some areas may not help other areas; * Overbuilding GI can lead to overlapping GI zones; * Unclear if developers are willing to overbuild on speculation of future sale of credits; * Unclear how value of credits would be established; * Unclear if municipality would be credit broker, or if developers can deal directly with each other; * May be difficult to apply credits to public rights of way; * Costing future O&M is difficult		X	X	X

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
Partnerships								
4.2.1 Multi-Agency	Encourages partnerships with non-Stormwater agencies to explore GI co-benefits in their work	Examples may include: * Spreading basins for groundwater agencies; * GI project sites on school grounds; * GI on housing authority sites	* Can generate credits for Credit Trading Program; * Expands GI potential and awareness; * Flexible; * Can leverage limited GI funding to greater benefit	* Not cookie-cutter; requires customization; * May be diffucult to find partners	X	X	X	???
4.2.2 Transportation	Encourages partnerships with transportation agencies to explore GI co-benefits in their work and take advantage of Complete Streets or Green Streets programs	Examples may include: * Permeable pavements; * Roadside rain gardens; * Cisterns	* Most municipalities are also transportation agencies, so internal project coordination more likely; * Can generate credits for Credit Trading Program; * Expands GI potential and awareness; * Can leverage limited GI funding to greater benefit; * Recent increase in Gas Tax may make more room for GI elements	* Not cookie-cutter; requires customization; * May be diffucult to find partners; * Road condition woes prevail, making it difficult to shift funding to GI and other amenity-type elements; * Transportation grants may preclude using funds for GI	X	X	X	???
4.2.3 Caltrans Mitigation	Caltrans looks for opportunities for off-site mitigation of stormwater impacts of their highways	Local municipalities may enter in a cooperative agreement with Caltrans to build GI as a way for them to mitigate stormwater impacts of their highways	* Caltrans may furnish funding for local or regional projects that help them meet their obligations; * Locals can propose solutions that benefit both Caltrans and the local agencies	* Caltrans cooperative agreements can be cumbersome and bureaucratic; * Projects that work for Caltrans may be difficult to develop		X	X	???
4.2.4 Public-Private ("P3")	Private enterprises can provide overall solutions to GI programs through better access to resources and capital	P3 is primarily a delivery system for projects where debt provides near-term funding and project acceleration	* Bypasses some of the bureaucracy; * Can make existing funding sources work more efficiently; * Draws on private sector expertise and financing; * Debt may be tax-exempt; * Debt accelerates project delivery; * Can include design, build, finance, operate; * Debt is private - may not affect public ageny's debt capacity	* Does not provide additional funding; * Dedicated revenue stream is needed - cash flow is an important element		X	X	X

Funding Category	GI Nexus	Requirements	Pros	Cons	Staff	Planning	Capital	O&M
4.2.5 Financial Capability Assessment	Can allow an agency to delay compliance with certain NPDES permit requirements	Follow EPA guidelines for application	Allows a qualifying agency to defer compliance with certain Permit compliance requirements	* Not a source of funding - only can grant time extenstions to Permit compliance; * Communities must meet several criteria such as poverty rates, income distibutions, bond ratings, etc.				
4.2.6 Volunteers	Volunteer groups can be a resource for GI operations and maintenance (O&M) as well as program planning	* To be effictive, volunteers need organization and oversight; * Can be used to supplement paid contractors, or perform entire projects	* "Free" labor; * Some volunteers provide needed expertise; * Increases awareness of GI program; * Some non-profit organizations have ready-made volunteer groups that are trained and organized; * Can build public support for dedicated revenue mechanism such as a fee; * Education program for community	* Requires significant staff resources to recruit, organize, train and plan & supervise the work; * Can be unreliable - hard to build schedule and cost forecasts around volunteer work force; * Can create conflict with prevailing wage requirements; * Difficult to incorporate into project construction work		X	???	X

6.2 APPENDIX B – ALTERNATIVE COMPLIANCE CASE STUDY IN EMERYVILLE, CA

In July 2017, the City Council of the City of Emeryville approved the use of an alternative compliance option for a portion of a private property owner's 14.5-acre mixed use redevelopment project building 674 multi-family residential units, 180,000 square feet of retail, and 120,000 square feet of office space. The majority of the project will use on-site LID to treat stormwater runoff. However, because one four-acre parcel of the site contained several existing buildings and pavement that were to be retained and required treatment, the property owner chose to propose to the City the use of an alternative compliance option in the MRP 2.0. There are several challenges to constructing LID stormwater treatment measures on this parcel including contaminated soil, a high seasonal groundwater table, conflicts with existing and planned utilities, clayey soils, tidal flows, and limited space.

The City used an "Off-site Stormwater Improvement Agreement" to detail the requirements of the property owner, who will construct approximately 6,300 square feet of GI measures (bioretention facilities) in the City's public right-of-way and in a City park to treat runoff from an amount of impervious surface greater than what would have been treated on-site. The key purposes of the agreement are to:

- Describe the conditions that led to the approval of off-site stormwater treatment;
- Set forth a process and timeframe for approval of plans and construction; and
- Describe maintenance responsibility and a calculation of cost for maintenance.

The off-site locations for GI were chosen through a consensus-based process and provide benefits to both the City and the property owner, including the following:

- Net water quality benefit compared with on-site provision of treatment measures through increases in pollutant of concern type and load reductions and increases of square footage of catchment and treatment area using the C.3.d sizing criteria;
- Increased cyclist and pedestrian safety through the use of stormwater curb extensions as traffic calming measures at intersections and in mid-block areas;
- Replacement of trees in poor health with new trees and improved planting conditions;
- Replacement of turf and other conventional landscapes with new sustainable, Bay-Friendly landscaping with a lower maintenance cost;
- Reductions in pollutant (e.g., PCBs, mercury and trash) discharges to the Bay by treating runoff from a larger variety of land uses and roadways as opposed to just roof tops on-site;
- Lower net cost for the property owner; and

- Progress towards meeting MRP 2.0 GI implementation long-term goals.

The developer has agreed to bear the costs of design, construction and post-project operations and maintenance. The developer will contract with design and construction firms and pay for the City-required plan check fees, insurance and permits necessary to build the improvements. The system designs will be approved by the City and inspected via the normal process for any work in the public right-of-way or on public property.

Operation and maintenance costs for the planned improvements were calculated based on the present value of a growing annuity. The present value of maintenance for a period of thirty years has been agreed upon by the City and the developer at $154,000 (or approximately $0.80 per square foot of treatment area per year in today's dollars), to be provided to the City by the developer as described in the Improvement Agreement in a lump sum after the improvements have been accepted by the City. The City will then assume responsibility for the maintenance of the treatment areas.
The O&M agreement for the on-site LID measures of the development project will reference the Improvement Agreement and the approval by the City of the alternative compliance option.

6.3 APPENDIX C – POTENTIAL FUNDING SOURCE ANALYSIS AND RECOMMENDATIONS

In 2014 C/CAG engaged SCI to study and make recommendations on strategies to fund water pollution prevention programs required in the previous MRP. One of the deliverables from that effort was the Potential Funding Sources Analysis and Recommendations Report, which described, analyzed and evaluated various funding mechanism alternatives available for stormwater programs at that time. That 2014 Report forms a solid basis from which to evaluate funding options for GI as well.

This report is included on the following pages.