Cost Resources for Municipal Stormwater Programs

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SACRAMENTO STATE
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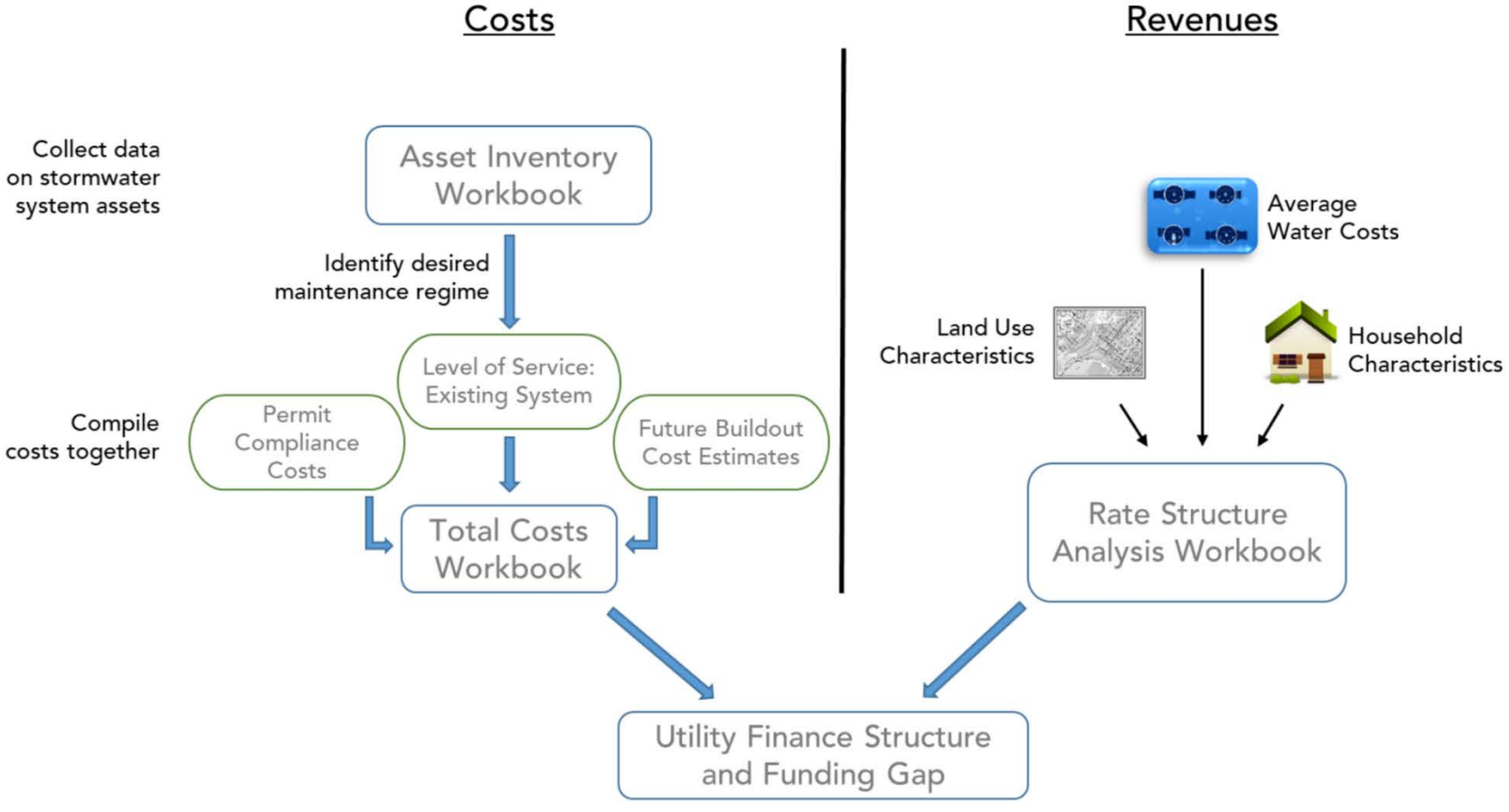
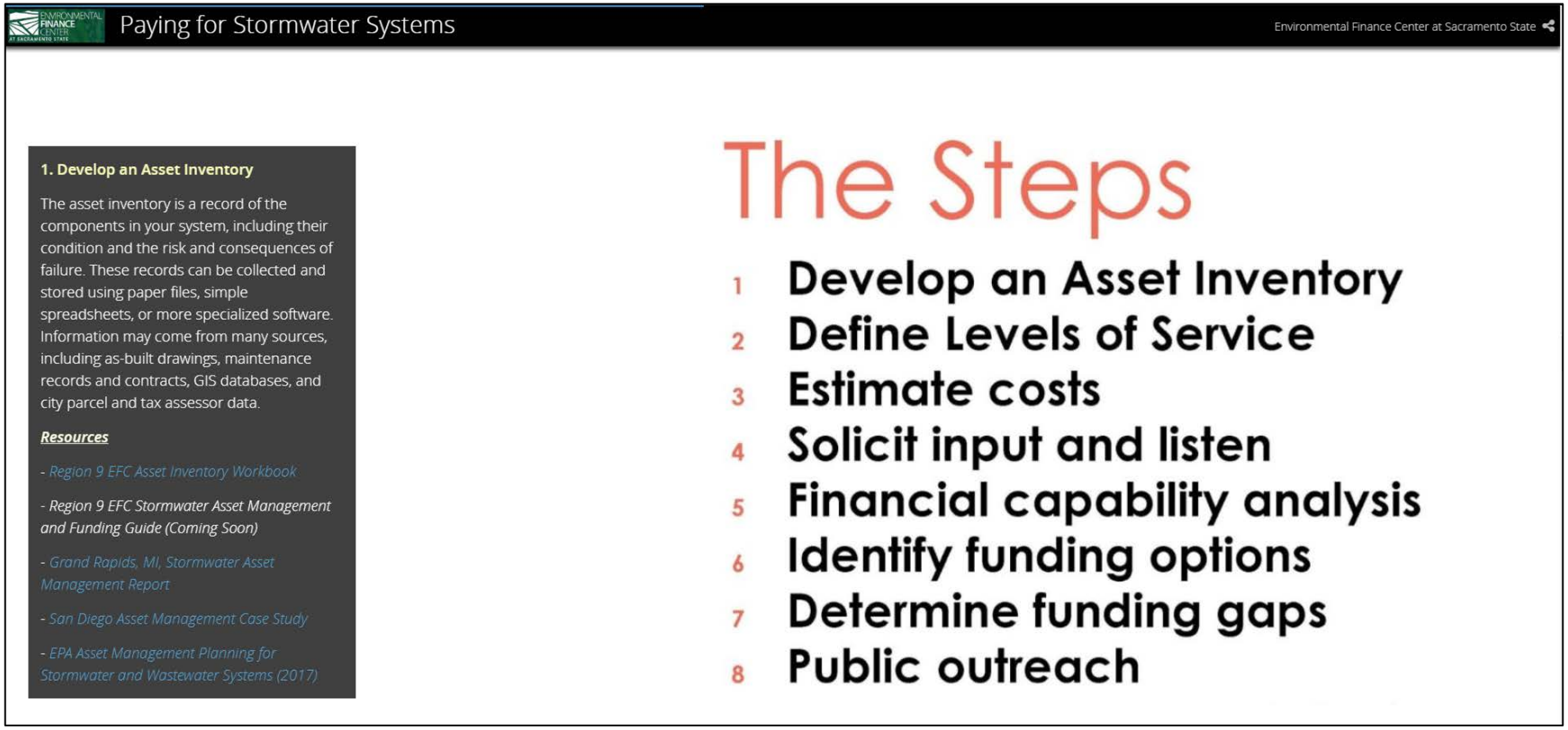
AT SACRAMENTO STATE

Stormwater Asset Management and Funding

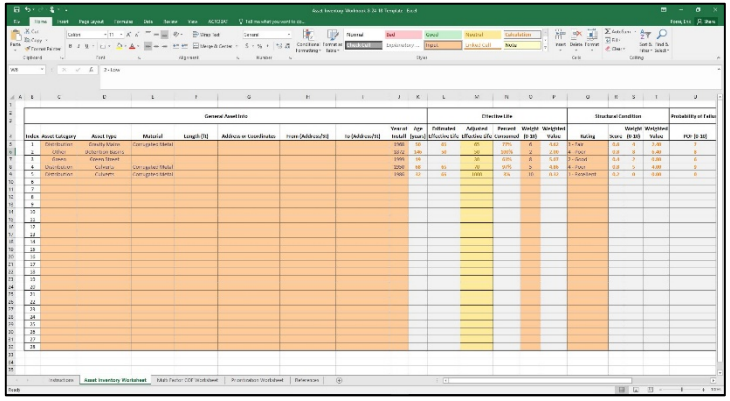


A Storyboard with Local & National Resources

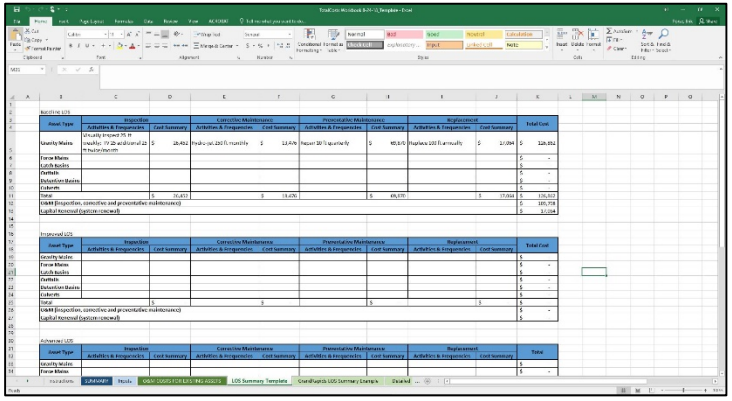


http://www.efc.csus.edu/stormwater_storymap/

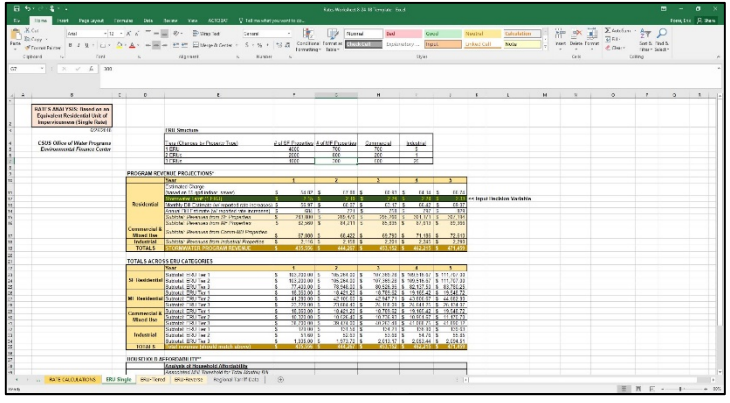
An Open-Source Toolkit



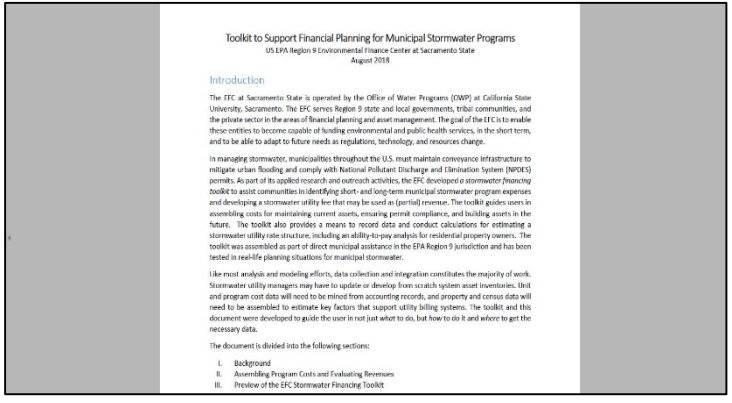
Asset Inventory Worksheet



Level-of-Service Worksheet



Rate Structure Worksheet



Toolkit to Support Financial Planning for Municipal Stormwater Programs

US EPA Region 9 Environmental Finance Center at Sacramento State

August 2018

Introduction

The EFC at Sacramento State is operated by the Office of Water Programs (OWP) at California State University, Sacramento. The EFC serves Region 9 state and local governments, tribal communities, and the private sector in the areas of financial planning and asset management. The goal of the EFC is to enable these entities to become capable of funding environmental and public health services, in the short term, and to be able to adapt to future needs as regulations, technology, and resources change.

In managing stormwater, municipalities throughout the U.S. must maintain conveyance infrastructure to mitigate urban flooding and comply with National Pollutant Discharge and Elimination System (NPDES) permits. As part of its applied research and outreach activities, the EFC developed a *stormwater financing toolkit* to assist communities in identifying short- and long-term municipal stormwater program expenses and developing a stormwater utility fee that may be used as (partial) revenue. The toolkit guides users in assembling costs for maintaining current assets, ensuring permit compliance, and building assets in the future. The toolkit also provides a means to record data and conduct calculations for estimating a stormwater utility rate structure, including an ability-to-pay analysis for residential property owners. The toolkit was assembled as part of direct municipal assistance in the EPA Region 9 jurisdiction and has been tested in real-life planning situations for municipal stormwater.

Like most analysis and modeling efforts, data collection and integration constitutes the majority of work. Stormwater utility managers may have to update or develop from scratch system asset inventories. Unit and program cost data will need to be mined from accounting records, and property and census data will need to be assembled to estimate key factors that support utility billing systems. The toolkit and this document were developed to guide the user in not just *what* to do, but *how* to do it and *where* to get the necessary data.

The document is divided into the following sections:

I. Background
II. Assembling Program Costs and Evaluating Revenues
III. Preview of the EFC Stormwater Financing Toolkit

Guide

http://www.efc.csus.edu/stormwater/index.html

Types of Costs

- Permit compliance
- Existing infrastructure (operations and maintenance)
- New infrastructure

Example Cost Categories

Labor
Materials
Operations
Contingencies
Planning
Permitting

Permit Compliance Cost Categories

1) Construction Site Stormwater Runoff Control
2) Illicit Discharge Detection and Elimination
3) Industrial and Commercial Management
4) Pollution Prevention/Good Housekeeping for Municipal Operations
5) Post-Construction Stormwater Management for New/Re-Development
6) Public Education, Outreach, Involvement, and Participation
7) Water Quality Monitoring
8) Overall Stormwater Program Management

Existing System Maintenance Costs

- Activities:
  - Inspection
  - Corrective and preventative maintenance
  - Replacement/renewal

Asset	Inspection	Corrective Maintenance	Preventive Maintenance	System Renewal	Total
Gravity Mains	$82,000	$99,000	$352,000	$838,000	$1,371,000
Force Mains	$500	$0	$0	$1,800	$2,300
Catch Basins	$176,500	$80,000	$9,000	$119,000	$384,500
Outfalls	$47,000	$14,000	$17,000	$1,700	$79,700
Detention Basins	$6,500	$0	$0	$22,500	$29,000
Culverts	$19,300	$0	$86,000	$17,000	$122,300
Subtotal of Asset Classes	$181,800	$118,000	$359,000	$950,000	$1,608,800
O&M (inspection, corrective and preventive maintenance)					$658,800
Capital Renewal (system renewal)					$950,000
Total					$1,608,800

http://www.efc.csus.edu/stormwater/index.html

Costs for New Infrastructure

- Many municipalities are facing significant costs for new infrastructure
- Requires new funding sources and partnerships
  - Financing vs. pay-as-you go
  - Grants, loans, collaborations
- Design considerations
  - Green or grey?
  - Sizing?

Assembling Cost Data

1) Surveying current data sources
2) Understanding ways to report costs
3) Looking for new sources to address data gaps
4) Recommendations

Collecting Standardized Data vs. Integrating Collected Data:

Separate tasks, both are useful

Reporting Program Costs: A Simple Example

EXPENDITURES - OVERVIEW BY FUND AND FUNCTION

DEPARTMENT	FISCAL YEAR 2013-14 AS ADOPTED	AS AMENDED	PROJECTED 6/30/2014	BUDGET FY 2014-15	FY 2015-16	FY 2016-17
GENERAL FUND						
GENERAL GOVERNMENT						
City Council	$ 266,650	$ 266,650	$ 265,632	$ 280,493	$ 296,838	$ 311,208
Administration	1,415,802	1,589,451	2,154,439	1,513,603	1,716,165	1,787,386
Housing & Neighborhood Services	995,525	1,011,865	990,459	1,093,108	1,031,899	1,070,015
City Attorney	719,600	719,600	679,300	720,300	720,300	720,300
City Clerk	425,714	445,839	417,182	484,391	463,938	513,978
Human Resources/Risk Management	3,103,275	3,406,154	3,630,779	3,588,474	3,487,916	3,397,814
Finance/Information Systems	2,558,178	2,838,755	2,630,307	2,491,226	2,558,839	2,579,926
Real Property Services	3,826,531	4,015,826	4,035,775	4,339,081	4,225,831	4,091,311
Total General Government	**13,311,275**	**14,294,140**	**14,803,873**	**14,510,676**	**14,501,726**	**14,471,938**
PUBLIC WORKS						
Operations	8,643,572	8,678,132	7,997,200	8,638,972	8,712,664	8,990,176
Engineering	2,884,044	2,891,699	2,805,047	3,182,262	3,182,128	3,334,280
Storm Water Program Management	1,056,233	1,056,833	597,510	659,069	678,379	696,094
Total Public Works	**12,583,849**	**12,626,664**	**11,399,757**	**12,480,303**	**12,573,171**	**13,020,550**
DEVELOPMENT SERVICES						
Planning	1,527,676	1,554,701	1,312,984	1,713,310	1,668,361	1,545,530
Building	1,174,564	1,176,988	979,761	1,330,947	1,327,248	1,394,720
Total Development Services	**2,702,240**	**2,731,689**	**2,292,745**	**3,044,257**	**2,995,609**	**2,940,250**

Annual Reporting Requirements

Reporting Program Costs: A Complex Example

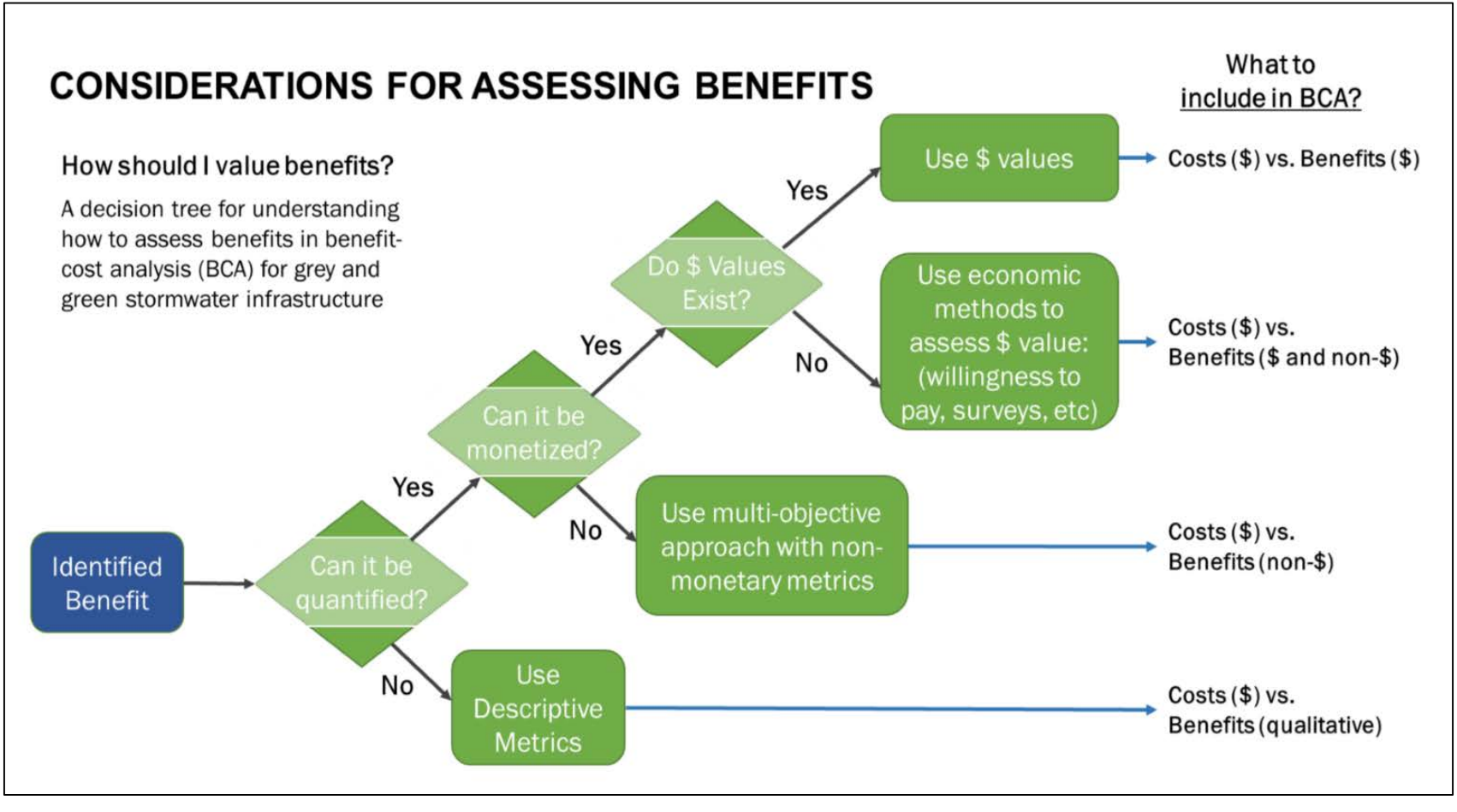
Units in Thousand dollars

PROGRAM ELEMENT	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	SOURCE OF FUNDS
A.1 Maintenance of Structural Controls	823.0	848.0	933.0	979.4	1,034.0	1,065.0	1,065.0	1,065.0	1,065.0	1,250.0	4,800.0	4,800.0	4,800.0	4,800.0	4,800.0	4,800.0	Sewer Enterprise Fund & Water Enterprise Fund
A.2 New Development/Redevelopment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
A.3 Road Operation & Maintenance	5,022.0	5,173.0	5,690.0	5,975.0	6,273.6	6,462.0	6,462.0	6,462.0	6,462.3	7,500.0	9,000.0	19,900.0	19,900.0	19,900.0	19,900.0	19,900.0	Gas Tax, Sewer, General and Refuse Fund
A.4 Flood Management Projects	0	0	0	0	0	0	0	0	0	0	0	20.0	22.0	22.0	22.0	22.0	Water Enterprise Fund
A.5 Controls for Landfills	236.0	6,050.0	3,559.0	3,559.0	3,381.0	3,482.0	3,482.0	3,482.0	3,482.4	3,400.0	4.0	4.0	4.0	4.0	4.0	4.0	Solid Waste Fees
A.6 Controls for Pesticides	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
A.7 Illicit Discharge Controls	19.0	19.5	24.5	25.7	26.9	27.7	27.7	27.7	27.8	4.8	8.6	6.5	6.3	6.3	6.3	6.3	Sewer Enterprise Fund
A.8 Spill Prevention	421.0	426.0	469.0	492.0	517.0	533.0	533.0	533.0	533.1	499.0	499.0	552.3	580.0	580.0	580.0	580.0	Business Service Fees (Fire Prevention Services)
A.9 Illegal Dumping Controls	1.5	1.5	1.9	2.1	2.5	2.6	2.6	2.6	2.6	0.5	0.8	0.6	0.6	0.6	0.6	0.6	Sewer Enterprise Fund
A.10 Leaking Sanitary Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
A.11 Inspection & Control Measures	28	29	31.9	33.5	35.2	36.3	36.3	36.3	36.3	6.3	11.5	8.6	8.4	8.4	8.4	8.4	Sewer Enterprise Fund
A.12 Industrial Monitoring	552.0	598.0	658.0	691.0	725.0	747.0	747.0	747.0	747.0	131.3	237.9	178.6	174.8	174.8	174.8	174.8	Sewer Enterprise Fund + Fees
A.13 Site Planning Procedures	241.0	248.0	260.0	273.5	287.0	295.0	295.0	295.0	295.7	475.0	475.0	475.0	475.0	475.0	475.0	475.0	Development Fees
A.14 Structural & Non-Structural BMP's	26.0	27.0	29.7	31.2	32.8	33.8	33.8	33.8	33.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	Development Fees
A.15 Site Inspections & Control Measures	62.0	63.0	69.0	72.8	76.4	78.7	78.7	78.7	78.7	30.0	30.0	30.0	30.0	30.0	30.0	30.0	Development Fees
A.16 Education/Training for Constr. Site Operators	1.4	1.5	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	Development Fees
B. Estimate of Loads & EMC's	7.6	7.6	8.1	8.1	8.5	8.8	8.8	8.8	8.8	9.6	10.2	10.7	10.6	10.6	10.6	10.6	Water Enterprise Fund
C. Wet-weather Monitoring and Administration																	
of the NPDES Program	70.0	75.0	82.5	82.5	82.5	85.0	85.0	85.0	85.1	95.0	160.0	200.0	200.0	200.0	200.0	200.0	Water Enterprise Fund
TOTALS	7,510.5	13,567.1	11,818.4	12,227.7	12,484.3	12,858.9	12,858.9	12,858.9	12,860.7	13,433.5	15,269.0	26,218.3	26,243.7	26,243.7	26,243.7	26,243.7	

Notes : Values of expenditures are approximate only.

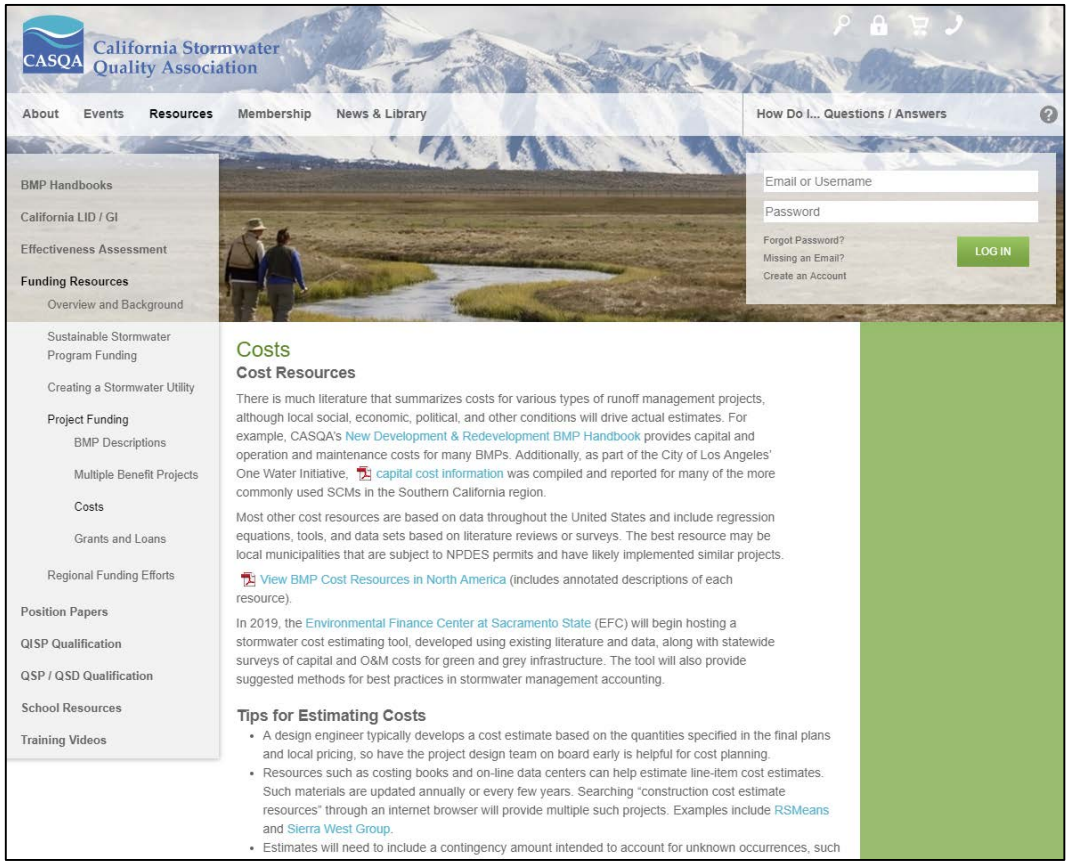
Annual Reporting Requirements

Incorporating Benefits



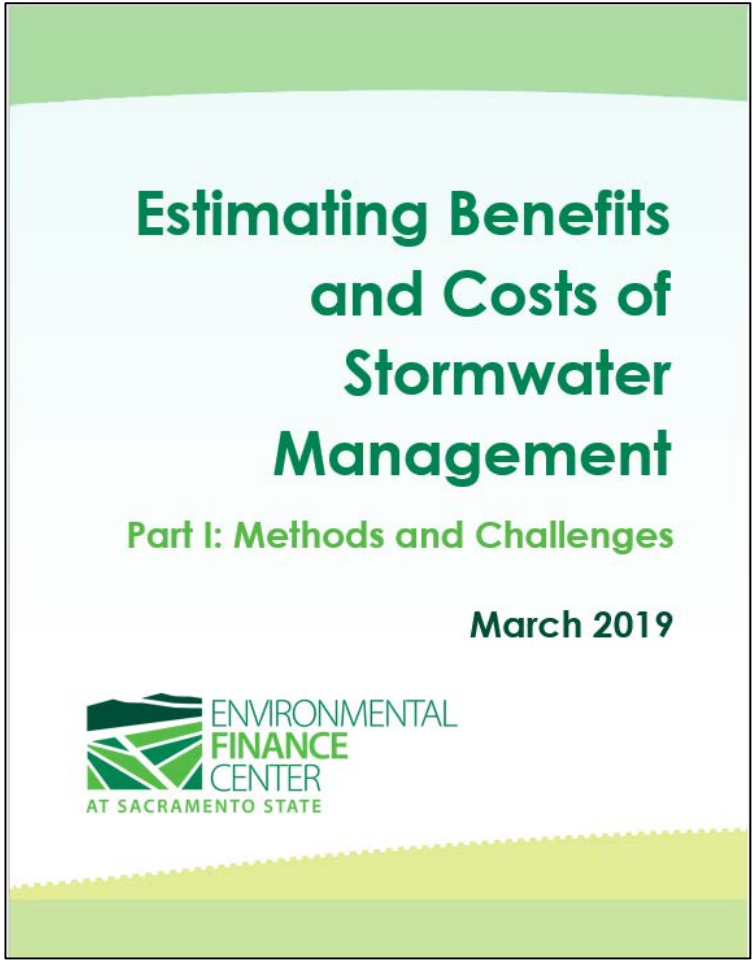
More Resources

- **Data sources for costs**
- **Methods for creating comparable costs**
- **Additional needs and gaps**



https://www.casqa.org/resources/funding-resources/costs

Guidance for Benefit-Cost Analysis



- Current project to develop resources for costs of stormwater management
- Filling in gaps in available resources
  - Program costs
  - Regional differences
  - Compiling resources

Links

EPA Region 9 Environmental Finance Center:

http://www.efc.csus.edu

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Understanding Terms

- **Stormwater Plan**: Description of activities to meet water quality and integrated water management goals.
- **Stormwater Program**: Institutions (personnel, departments, $$ accounts) that carry out plans.
- **Asset Management**: Organized process improve your systems and spend money wisely.
- **Financial Plan**: Data-driven analysis to justify your existence.