



**CITY OF ORANGE
LOCAL IMPLEMENTATION PLAN (LIP)**

**SECTION A-1
INTRODUCTION**



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A-1.0 INTRODUCTION

This document constitutes the City of Orange's (City) Local Implementation Plan (LIP) prepared as part of a compliance program to satisfy the requirement of the area-wide Drainage Area Management Plan (DAMP) and the Santa Ana Region Water Quality Control Board municipal storm water permit issued to the City.

This plan describes the activities that the City has or is currently undertaking to meet the requirements of its NPDES permits and to make meaningful improvements in urban water quality. Although the LIP is intended to serve as the basis for City compliance during the five-year period of its NPDES permits, the LIP is subject to modifications and updates as the City determines necessary, or as directed by the Regional Board.

The storm water pollution control effort, of which this LIP is a part, is the result of over three decades of legislative effort beginning with the 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA). In 1987 the Water Quality Act brought storm water discharges into the NPDES program and USEPA subsequently issued implementing regulations on November 16, 1990.

Section 402(p) of the CWA, as amended by the Water Quality Act of 1987, requires that municipal NPDES Permits include:

1. A requirement to effectively prohibit non-storm water discharges into municipal storm sewers; and
2. Controls to reduce the discharge of pollutants from municipal storm drains to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Regulations promulgated by EPA on November 16, 1990 (40 CFR 122.26 (d)(2)(iv)) require municipal NPDES permit applicants to develop a management program to effectively address these requirements. These regulations also indicate that the proposed management program, such as the DAMP, "*shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.*"

In response to these regulations, the City has cooperated with the County of Orange, the Orange County Flood Control District and the other cities in Orange County (the Permittees) in complying with the National Pollutant Discharge Elimination System (NPDES) permits issued by the Santa Ana Region Water Quality Control Board. Each permit renewal has required the City and Permittees to continue to implement ongoing storm water quality management programs and update and develop additional programs to control pollutants in storm water discharges.



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The result of this cooperation has been the development of numerous common storm water programs that have been integrated in the area-wide DAMP. This common approach provides the most efficient and effective means of reducing storm water and urban runoff pollution and meeting permit requirements.

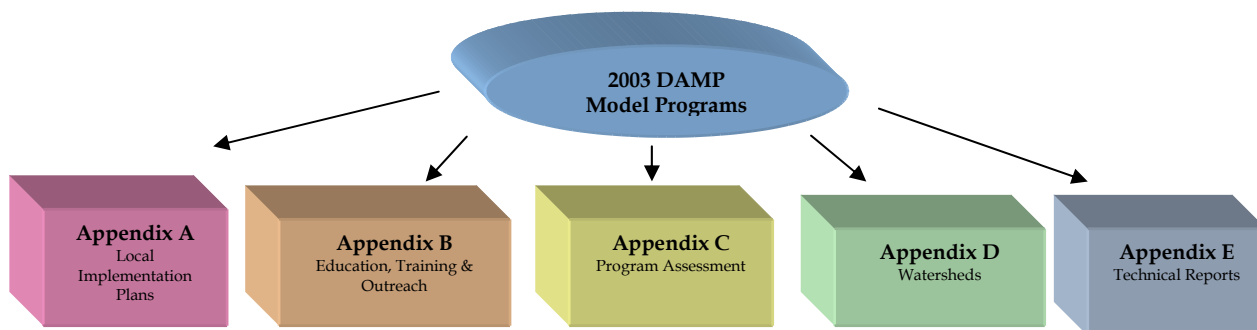
Originally developed in 1993, the DAMP was significantly restructured as a result of the Third Term permit and termed the 2003 DAMP. The 2003 DAMP contains model program guidance that was developed through a collaborative effort among all the Permittees, including the City, as well as interested agencies, organizations and the public. In addition, the DAMP underwent public review through the California Environmental Quality Act (CEQA) process.

The 2003 DAMP contains the following appendices:

- Appendix A - The Local Implementation Plans developed by the Permittees
- Appendix B - Education, Training and Outreach Component
- Appendix C - Program Effectiveness Assessment Component
- Appendix D - Watershed Components
- Appendix E - Technical Reports

Figure A-1.1 provides a graphical illustration of the structure of the 2003 DAMP.

Figure A-1.1 - 2003 DAMP Structure



In developing this LIP, the City has utilized the 2003 DAMP and revised 2007 DAMP, referred to collectively hence forth as the DAMP, and Fourth Term Permit requirements as the foundation for its program development. These documents act as companion parts of the City's compliance program. Because of the major restructuring that occurred in the 2003 DAMP, this LIP contains numerous references to the 2003 DAMP.



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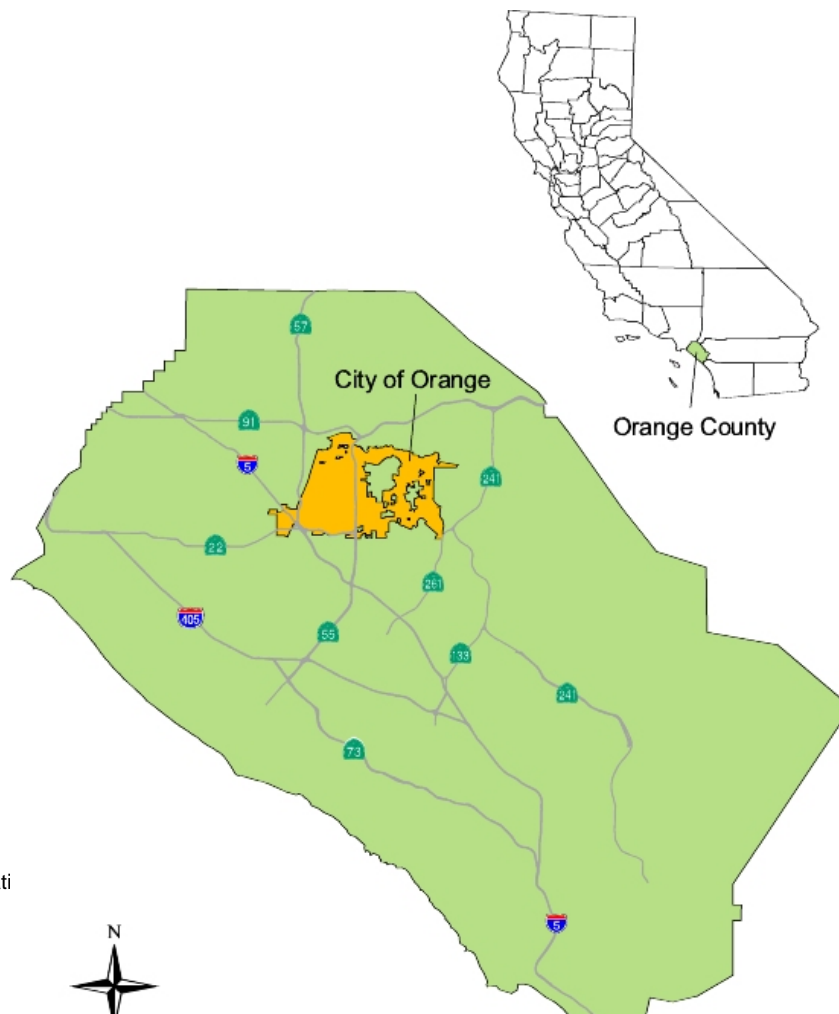
A-1.1 ENVIRONMENTAL SETTING

A-1.1.1 Geography and Climate

The City of Orange, with a present population of approximately 140,000, is situated in central Orange County, approximately 32 miles southeast of Los Angeles. The City is bounded to the west by Garden Grove and Anaheim, to the north by Anaheim, to the east by unincorporated areas of the County and to the south by Santa Ana and unincorporated areas of the County. The City of Orange surrounds the City of Villa Park. The City's land area is 25.8 square miles, with a sphere of influence area of an additional 35 square miles. The City of Orange is located near five major freeways, I-5, SR-91, SR-57, SR-22 and SR-55. **Figure A-1.2** illustrates the regional location of the City.

Orange County's climate has hot, dry summers and mild winters. Nearly all the annual precipitation falls in only a few storm events between October and April. During times of drought, it is not unusual for years to pass between major rainfalls. It is also common for successive storms of varying durations and intensities to compound their effects, with the heavy rainfall of the second or third storm creating the most severe flood conditions. On average, Orange County receives only 12 to 13 inches of rain per year.

Figure A-1.2
Regional Location - City of Orange





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A-1.1.2 Watersheds

The City falls within three watersheds, the Santa Ana River Watershed, the San Diego Creek watershed and the Westminster Watershed. These watersheds are illustrated on **Exhibit A-1.I** and based on the hydrologic areas delineated by the Orange County Flood Control District. Watersheds are generally defined as areas that drain to a single point or receiving water.

Most of the City falls within the Santa Ana River Watershed. The portion of the City that falls within the San Diego Creek Watershed is limited to the relatively small southeastern portion, consisting primarily of residential communities with scattered neighborhoods serving commercial areas. The portion of the City that falls within the Westminster Watershed is a small southwestern portion.

A-1.1.3 Impaired Waters/Environmentally Sensitive Areas (ESAs)

CWA Section 303(d) Water Quality Limited Segments of Receiving Waters

Under Section 303(d) of the CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments of receiving waters (impaired waters). These impaired waters do not meet water quality standards or support designated water uses. The federal law requires that priority rankings be established for the impaired waters on the 303(d) lists and Total Maximum Daily Loads (TMDLs) be developed to improve water quality. The Ducheny Bill (AB 1740) requires the California State Water Resources Control Board (SWRCB) and its nine Regional Water Boards to develop the 303(d) list and to provide an estimated completion date for each TMDL.

On June 28, 2007, the US EPA adopted the State Water Resources Control Board (SWRCB) 2006 303(d) list of water quality limited segments (**Table A-1.1**). **Table A-1.2** has been prepared to include impaired waters within Orange County. Also included are the primary reasons for the listing of the waters (such as high coliform count). **Table A-1.2** includes impaired waters within the City (none). Future updates by the State and EPA to the 303(d) list will be reflected accordingly in revisions to **Table A-1.1** and **Table A-1.2**.



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Table A-1.1. Summary of 2006 303(d) Listed Water Bodies and Associated Pollutants of Concern for Orange County

Water Body	Watershed	Pollutant															
		Bacteria Indicators/Pathogens	Total Coliform	Fecal Coliform	Enterococci	Metals	Nutrients	Pesticides	Phosphorous	Priority Organics	Sediment/Siltation	Sediment Toxicity	Salinity	TDS	Turbidity	Unknown Toxicity	Chlorides
Anaheim Bay	C					X		X		X		X					
Bolsa Chica State Beach	C					X											
Huntington Harbour	C	X				X				X		X					
Seal Beach	C				X					X							
Huntington State Beach	D	X			X					X							
Santiago Creek, Reach 4	E											X	X				X
Silverado Creek	E	X										X	X				X
Peters Canyon	F							X									
San Diego Creek, Reach 1	F			X		X		X									X
San Diego Creek, Reach 2	F					X											
Balboa Beach	G							X		X							
Newport Bay, Lower	G				X	X		X		X		X					
Newport Bay, Upper	G					X		X		X		X					
Rhine Channel	G					X				X		X					
Buck Gully Creek (D/S PCH)	H		X	X													
Los Trancos Creek (D/S PCH)	H		X	X													



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Table A-1.2. 2006 List of Impaired Waters within the City

Name	Hydrologic Unit	Pollutant/Stressor	Source	TMDL Priority	Size Affected
No 303(d) Listed Water body within City					

Source: State Water Resources Control Board

Environmentally Sensitive Areas (ESAs)

Although the Santa Ana Permit does not include a definition of ESA’s, for the purposes of this LIP, the following categories from Section VIII.3 and XII.B.2.f of the Third Permit Term have been included as ESA’s:

- CWA Section 303(d) impaired waters and;
- Areas tributary to or within 500 feet of an Area of Special Biological Significance.

Using these definitions, there are no ESAs in the City of Orange as shown in **Table A-1.3**.

Table A-1.3. Environmentally Sensitive Areas within City of Orange

Name	Hydrologic Unit	Reason for listing as ESA
No ESAs within the City of Orange		

A-1.2 OBJECTIVES OF THE LOCAL IMPLEMENTATION PLAN

The main objectives of this LIP are to fulfill the commitment of the City to present a plan that satisfies the requirement of the Santa Ana Permit and to evaluate and reduce the impact of urban storm water on the beneficial uses of receiving waters. This LIP, in conjunction with the DAMP and its updates, is the principal policy and guidance document for the City’s NPDES Storm Water Program. The LIP is structured using the same organization, by section, as the DAMP and includes the following programs in subsequent sections:

1. Framework for program management activities and future plan development (Section A.2.0 and Section A.3.0);
2. Legal authority for prohibiting unpermitted discharges to the storm drain system and for requiring BMPs in new development and significant redevelopment (Section A.4.0);
3. Municipal activities for pollution prevention and treatment to further reduce the amount of pollutants entering the storm drain system (Section A.5.0);
4. Educational program to communicate with the public about urban storm water and non-storm water pollution and obtain their support in implementing pollution prevention BMPs (Section A.6.0);



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5. New development and significant redevelopment controls to incorporate appropriate and required post construction nonstructural and structural BMPs into the environmental planning and development review process (Section A.7.0);
6. Construction site controls that address appropriate and required practices for erosion and sediment control and on-site hazardous materials and waste management (Section A.8.0);
7. Existing development programs to prioritize, inspect and implement programs for commercial and industrial facilities and residential areas (Section A.9.0);
8. Illegal discharges/illicit connections (ID/IC) program to detect and eliminate unpermitted discharges and unauthorized connections to the municipal storm drain system (Section A.10.0);
9. Monitoring programs for wet and dry weather to identify areas with water quality problems, to assist in the prioritization of watersheds for analysis and planning, and to assist in the prioritization of pollutants to facilitate the development of specific controls to address these problems (Section A.11.0); and
10. Watershed scale initiatives (Section A.12).

A-1.3 DAMP/LIP COVERAGE

This LIP is applicable to the area of the City within the jurisdiction of the Santa Ana Regional Board. The non-topographic boundary between Orange County and adjoining counties could result in certain Permittees being subjected to flows originating from or discharging to areas that are subject to separate NPDES municipal storm water permits issued by the Regional Boards. The common drainage issues with Orange, Riverside and San Bernardino counties are being addressed through joint participation in integrated monitoring and research and program development initiatives.

A-1.4 PROGRAM ASSESSMENT AND MODIFICATION

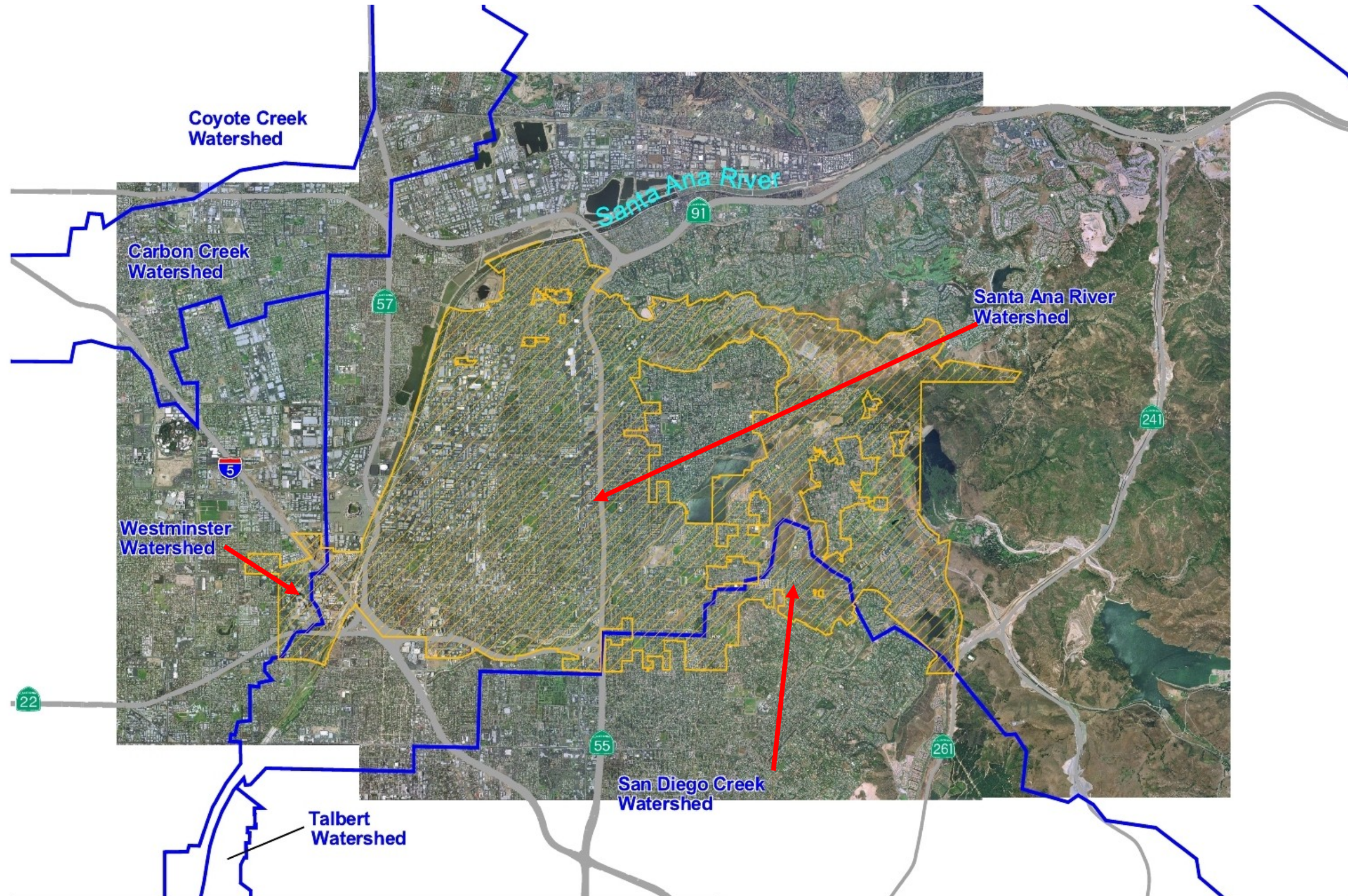
The Program Effectiveness Assessment is the foundation for the Annual Progress Report that is submitted each year to the Regional Board. This report presents an evaluation of this LIP which is used to determine where modifications within the program may be necessary. It also ensures that the iterative evaluation and improvement process is applied to each of the program components and is used as an effective management tool.

Exhibit A-1-I




City of Orange

Watershed Map

City of Orange Watershed Map



8000 0 8000 Feet

-  Watershed Boundaries
-  City of Orange
-  Highway