

**MEETING DATE** October 10, 2005

**AGENDA ITEM** Consideration of the City Council to Approve Resolution  
R\_\_\_\_\_ Accepting Grant Funds from the State Water Resources Control Board  
for the Culver City Citywide BMP Treatment Train Project

**ATTACHMENTS**

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# **ATTACHMENT**

## **PROJECT SUMMARY**

### **PROJECT LOCATION**

City of Culver City (City-wide) *Please refer to Maps 1-4*

### **OVERALL PROJECT GOAL**

Implement a strategy of citywide BMP treatment trains to reduce impact from urban and storm water pollution on Ballona Creek and the Santa Monica Bay and to further the goal of becoming a model for a clean, green city

### **PROJECT OBJECTIVES**

- ✓ Implement effective and innovative BMPs on City-owned properties, to serve as demonstration projects
- ✓ Achieve measurable load reductions of various pollutants of concern by implementing a combination of source control and treatment technologies A key project objective is to achieve complete elimination of trash from the City's storm drains to Ballona Creek,
- ✓ Enhance and supplement the performance of existing BMPs, such as CDS
- ✓ Measurably decrease volume of runoff contributing to urban runoff pollution
- ✓ Monitor BMP performance/effectiveness of reducing pollutant load and runoff volume
- ✓ Highlight BMP success and importance through public outreach and education
- ✓ Provide impetus for continued and sustained pollution reduction within the City by providing effective, coordinated outreach and education for the public and
- ✓ Implement the City's comprehensive strategy of becoming a BMP model for residents and businesses

### **SMBRC's KEY PRIORITY TO BE ACHIEVED**

- ✓ Elimination of trash into Ballona Creek/Santa Monica Bay
- ✓ Installation of storm water/infiltration devices at high priority sites to achieve significant load reductions for pollutants of concern
- ✓ Installation of end-of-channel/tributary trash capture devices at all feasible sites by 2006

### **PROJECT DESCRIPTION**

Descriptions of various BMPs proposed as part of the City-wide BMP treatment trains are provided below Most of the BMP locations are on city-owned property for the many advantages publicly-owned sites offer in terms of ease of gaining access simpler permitting process, high public use and visibility and guaranteed long-term maintenance and monitoring of BMPs Also by choosing City-owned sites as demonstration sites for innovative BMPs, the City will serve a "green role model for residents and businesses by illustrating how storm water/urban runoff BMPs could potentially be incorporated into private residential and commercial lots in an efficient

and aesthetic manner

In order to ensure success of the numerous BMPs being proposed the City will hire professional consultants, preferably LEED-certified, in planning, designing, and monitoring the projects as well as to oversee any unforeseen obstacles such as site constraints and other logistic barriers, during the (pre-)construction and the initial operation phase of the BMPs. Also appropriate soils and other preliminary studies will be conducted to ensure successful installation of BMPs at each proposed location

## **1 TWO-TIERED CATCH BASIN INSERTS**

### **Description**

Full-capture devices will be installed in all of City's **672** storm water catch basins to remove trash and debris in runoff conveyed through the storm drain network within the City's boundary. These inserts are specially designed so that a brush (resembling those beneath a motor home) installed in the catch basin opening will block litter and allow water to pass through catch basin inlet. An aluminum screen with 5mm holes installed at an incline inside the catch basin (above storm drain outlet) will capture all trash. These innovative BMPs designed and pilot-tested by several cities within Los Angeles County, are pending formal review & approval from the Regional Board as full capture devices. The maintenance needs for the proposed inserts are minimal (inclined screens are designed to push trash towards directly under manhole) and similar to current catch basin cleaning practice. The total cost of material & construction is about half of other existing catch basin inserts. Compared to other types of inserts whose efficiency is known to be compromised during heavy storms, the pilot (two-tiered) catch basin inserts in the City of Glendale fared well during the heavy storms in spring 2005. City staff will maintain these catch basin inserts. An interagency agreement will be in place prior to insert installation, for catch basins owned and maintained by the County. These BMPs have life expectancy of 20-plus years.

**Location** citywide

### **Estimated Annual Pollutant Load Reduction**

Approximately **100 tons** of trash (and vegetation) is expected to be captured and removed by implementing the proposed catch basin inserts and recycling receptacles, based on estimates generated using the data from the 2004 land use-based trash baseline monitoring data for Ballona Creek Watershed compiled by Los Angeles County Department of Public Works.

**Cost \$537,600**

## **2 TRASH AND RECYCLING RECEPTACLES AT CRITICAL, HIGH TRASH GENERATING AREAS**

### **Description**

Approximately 50 recycling receptacles (designed to be tamper-free) and 45 trash receptacles will be placed in high trash generation areas, including schools, transit stops, downtown shops, convenience stores, etc. The catch basin inserts (described above) and the placement of additional trash and recycling receptacles at strategic locations will enhance the performance of the existing CDS on Overland and Ballona

Creek by alleviating the high trash load experienced during heavy storms (The CDS receives flows from the Cities of Culver City and Los Angeles) These receptacles will be labeled with a pollution prevention logo and will acknowledge the source of funding (i.e. Proposition 50 and SMBRC) City staff will maintain these trash and recycling receptacles on a regular basis These BMPs have life expectancy of 20-plus years

#### **Locations**

**Schools, transit stops, downtown shops and convenience stores on Washington Blvd , Culver Blvd , Sepulveda Blvd , Venice Blvd , etc**

**Estimated Annual Pollutant Load Reduction** See Above

**Cost \$58,000**

### **3 ROOF DRAIN OR DOWNSPOUT DISCONNECT/CISTERN/ OPTIMIZED IRRIGATION**

#### **Description**

Multi-unit BMP treatment system will be incorporated into the construction phase of the City's Fire Station 3 Fire Station 3 which is in planning stage, will undergo construction in 2006 and 2007 New construction sites such as this, are attractive BMP demonstration sites because they have less of the kinds of limitations that retrofit sites have, such as incompatible existing ground slope, space limitations disruption of routine operational activities, etc This demonstration project-- to consist of bioretention areas, roof drain disconnect, cistern, and optimized irrigation-- will aim to reduce wet weather runoff volume and associated pollutant loads and promote water conservation by

- configuring the roof downspouts as to route the roof runoff to nearby greenscaped areas and to an underground cistern for water storage and use for irrigation The plan is to 500-800 gallon two-tank system complete with pump and drywell structure
- employing optimized irrigation, including an automatic shut-off system with a computerized/sensor, and drip irrigation that delivers water directly to the roots of the plants This, combined with the xeriscaping to be incorporated into landscape at the Fire Station, will lead to both water conservation, and runoff reduction

#### **Location**

Fire Station 3 (6030 Bristol Parkway Culver City, CA 90230)  
(lat/long 33 98672/ -118 38660)

**Estimated Annual Pollutant Load Reduction** Oil & grease, metals bacteria and other chemicals associated with first flush runoff from the 1-acre lot

**Cost \$26 000**

### **4 GREEN ROOFS/ OPTIMIZED IRRIGATION**

**Description** Green roofs or optimized irrigation system will be constructed and installed at about a dozen City parks and recreation centers, which have high public visibility and use The primary project objectives are to capture and evaporate storm

water runoff and to eliminate runoff from over-irrigation and conserve water. Green roofs, also known as eco-roofs, offer many other benefits of cooling the roof by evaporation (typically by 7 to 9 degrees), protecting the roof from destructive ultraviolet rays, retaining and using rainwater, and cleaning the air by converting carbon dioxide to oxygen. There are several examples of green roof in northern California including the Gap building outside of San Francisco and the Oakland Museum of California. If built the Culver City green roof project will be one of the first (if not the first) green roofs on a municipal building in California. Green roofs typically have a 50-year life expectancy.

Specifically, the plan includes constructing a green roof for the Ceramics Hut in El Marino Park (approximately 1,500 sq ft) and for the recreation center (approximately 1,800 sq ft) at Culver West Park and Recreation Center [note: This second site is being re-evaluated for feasibility. A new site may be proposed, based on the outcome of the evaluation.] The existing roofs will be retrofitted appropriately with additional structural support to accommodate the extra weight. Vegetation on the green roof will consist of hardy, low-growing, drought resistant, fire-resistant plants that provide dense cover and are able to withstand heat, cold, drought, and high winds. The design phase will include a careful planning for the types of vegetation that will also offer aesthetic visual effect.

Currently, the City has three computerized sensors that monitor for rainfall or main line breaks and automatically shut off irrigation at various public parks and recreation centers to conserve water. Though most City parks are monitored by a central control system, there are about nine sites that are not connected to this central system and are not equipped with a sensor and an automatic shut-off system. In order to conserve water and eliminate runoff from over-irrigation, a controller, a flow meter, and a master valve and/or connection to the central control system will be installed at the following locations:

### **Locations for Green Roofs**

- 1 Culver West Park and Recreation Center**  
4162 Wade Street, Culver City, CA 90066 (lat/long 33 99474/-118 43437)
- 2 El Marino Park and Recreation Center**  
5301 Berryman Avenue, Culver City, CA 90230 (lat/long 33 99333/-118 40025)

### **Locations for Optimized Irrigation**

- 1 Coombs Park**  
Farragut Drive, Culver City, CA 90230 (lat/long 34 00729/-118 40102)
- 2 Culver City Park**  
9800 Jefferson Blvd, Culver City, CA 90232 (lat/long 34 01601/-118 38817)
- 3 El Marino School Culver City Park**  
11450 Port Road, Culver City, California 90230 (lat/long 33 99240 /-118 40240)
- 4 Linwood E. Howe School Playground**  
4100 Irving Place, Culver City, CA 90232 (lat/long 34 02182/-118 39259)

- 5 Jefferson Turf Islands- landscaped street median along Jefferson Blvd (from Pearson St to Overland Av )
- 6 Circuit City Islands- landscaped islands in business districts on Washington Blvd near Slauson (approx lat/long 33 98662/-118 39526)
- 7 Machado Islands- landscaped islands immediately behind Jefferson and Sepulveda Blvds (lat/long 33 99789/-118 39545)
- 8 Ivy Substation- landscaped areas surrounding a live stage playhouse near Culver Blvd and Venice Blvd 8170 Beverly Blvd Los Angeles CA 90048 (lat/long 34 07621/-118 36747)
- 9 Studio Estates- landscaped islands in a residential area (bounded by Washington Blvd Overland Av , Culver Blvd and Elenda St )

**Cost \$145,000 (\$80,000 for green roof, \$65,000 for optimized irrigation)**

**Estimated Annual Pollutant Load Reduction** Reduction in runoff from roughly 3 500 square feet of roofed area as well as from over-irrigation from the 9 parks and recreation center greenscapes and the oil & grease, metals, bacteria, and other pollutants that the runoff may pick up as it flows through parking lots and streets

## **7 HIGH PRESSURIZED WATER BROOMS**

**Description** An intensive, focused pollution prevention and water conservation program involving the distribution of and education on the use of high pressurized water brooms will be launched for commercial businesses and special events, such as weekly Farmer's Market in downtown Culver City. The primary goal is to educate and provide a concrete means to deter businesses and city contractors from hosing down driveways and sidewalks. About **500** critical sector businesses, including restaurants, nurseries, etc in commercial districts, including Culver Blvd Washington Blvd, Venice Blvd and Sepulveda Blvd , will be strategically targeted for broom distribution and outreach.

The water brooms have been used successfully by several Ballona Creek Watershed cities including Santa Monica West Hollywood and Beverly Hills—targeting primarily businesses and city staff. Culver City will perform outreach and education on the use of water brooms which ensured BMP success for these cities. The water brooms clean litter, spills bird droppings, etc from concrete using very little water that dries in minutes. Water savings of 60% and labor reduction of 75% were reported by pilot program participants. No maintenance by users is required. Through repeated outreach, the City will ensure that these brooms are used properly and on a regular basis. These brooms are expected to last 15 plus years with regular outreach and reminder.

**Locations** Culver Blvd, Washington Blvd, Venice Blvd and Sepulveda Blvd

**Expected Annual Pollutant Load Reduction** Significant reduction of dry weather runoff and associated pollutant load

**Cost** \$110 000 for brooms and outreach activities

### **Project Evaluation**

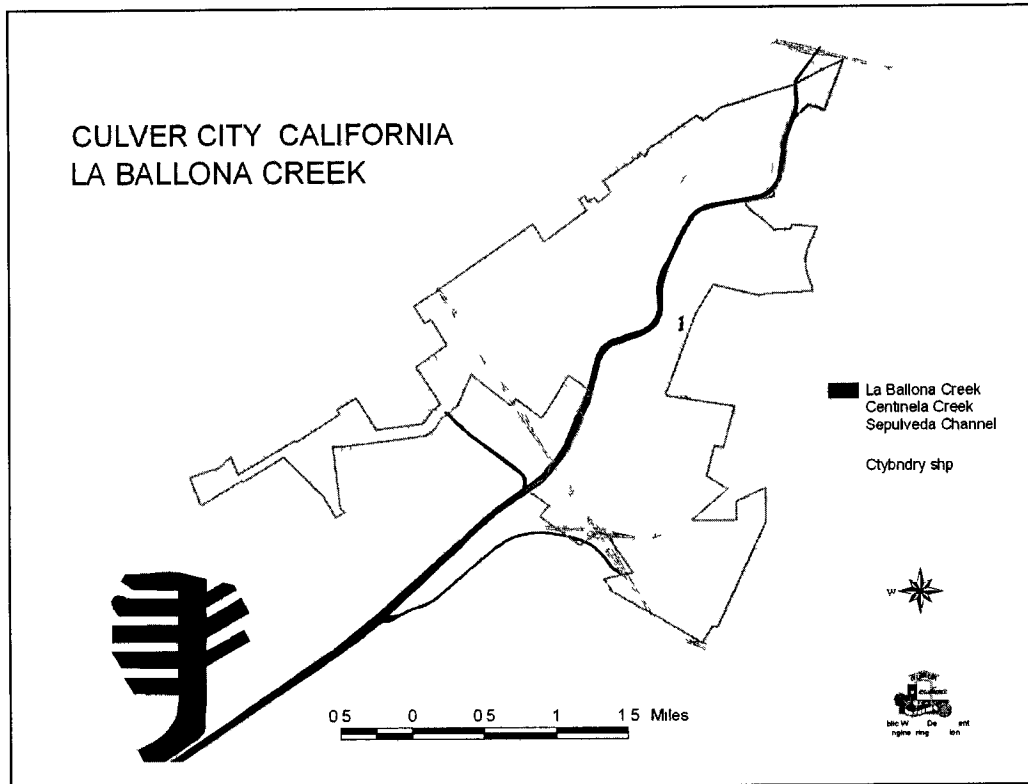
The success of the BMP treatment trains will primarily be monitored and evaluated by developing and implementing a comprehensive monitoring plan specifically designed to test the efficiency of each BMP. Since the BMP treatment train involves some non-traditional (i.e. non-end-of pipe) structural solutions, creative and well-thought-out monitoring strategies will be needed to provide accurate estimates of pollutant load reduction and water conservation achieved directly and indirectly through the use of the BMPs. Professional consulting services will be enlisted in devising a strategic monitoring plan. Given the tight timeframe of this grant, this project will include monitoring of BMPs for one wet season, however, when the grant expires, the City will continue to monitor these BMPs-- to ensure that these BMPs are properly operated and maintained to evaluate the magnitude of pollutant load reductions, and to help assess and identify opportunities for future BMPs.

Upon imminent notification of the grant award, City staff will work closely with appropriate staff across City departments and the City Council members to address any potential conflicts the proposed BMPs may present with existing municipal codes and to facilitate the permitting process.

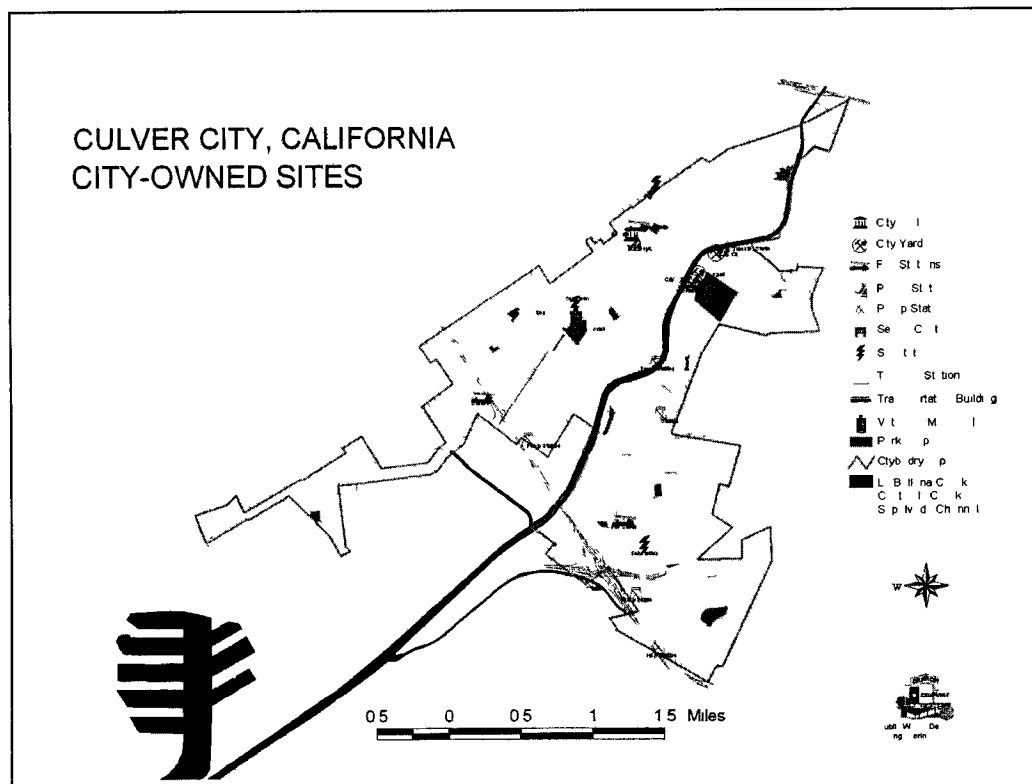
Part of the goal of this project is to generate excitement and impetus for sustained pollution prevention/management among residents and businesses. Towards this end, the City will launch a series of public education and outreach activities, to both inform and reach out to the public with messages that will raise public awareness and encourage behavioral changes. To the extent possible, the City will partner with Ballona Creek environmental organizations in coordinating and implementing the public outreach and education activities. Press releases (both before and after the construction of BMP treatment trains), presentations at national and regional environmental conferences, city publications (including Culver City Living brochure) signage on or near each BMP, and tours for the public to showcase the treatment trains are among the planned public education and outreach activities to raise the level of public awareness and pride in environmental stewardship.

Furthermore, to ensure continued success of the project, the City will prepare a maintenance plan for each BMP, with recommended maintenance and inspection schedules. The long-term success of the project will depend on educating City maintenance staff, getting the necessary buy-in from appropriate departments and making sure that the recommended maintenance and inspection activities are performed in a timely manner.

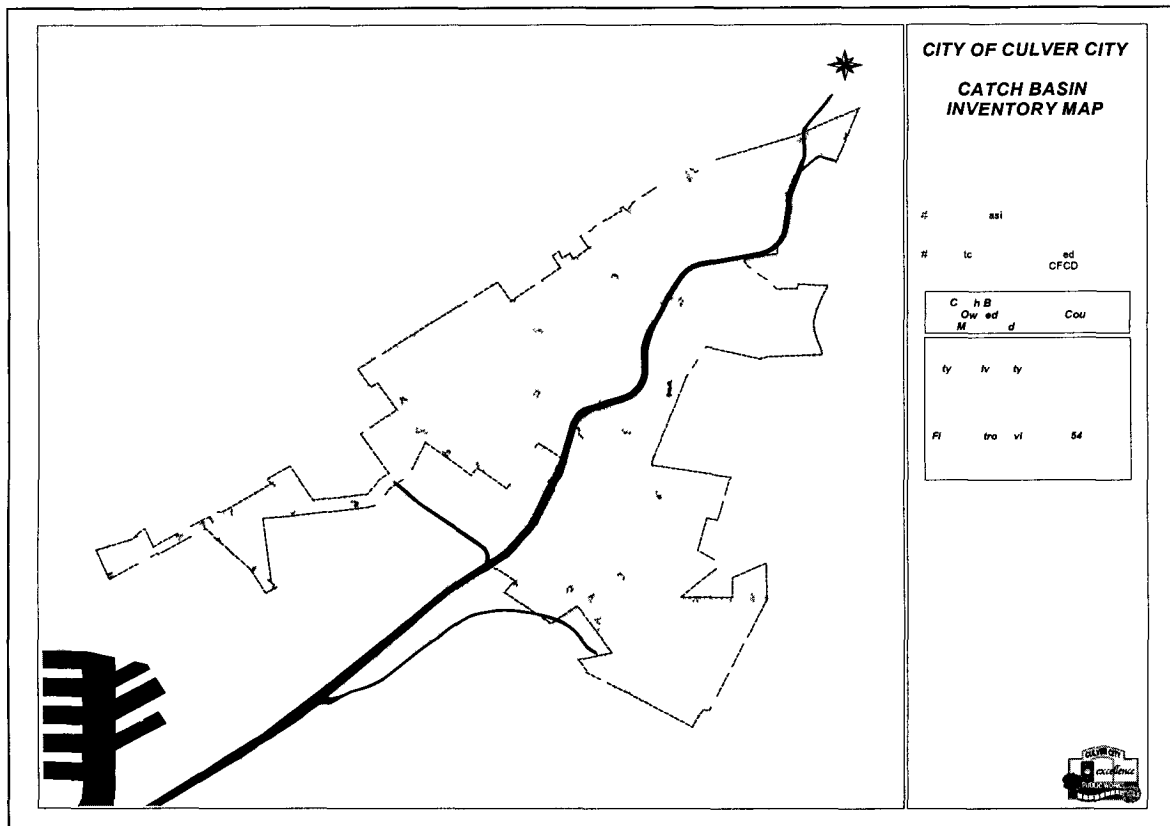
Finally, an evaluation of the project success will be provided in a white paper that will document the goals, approach, process, milestones, lesson learned, and the (monitoring) results of implementing the BMP treatment trains in the City of Culver City.



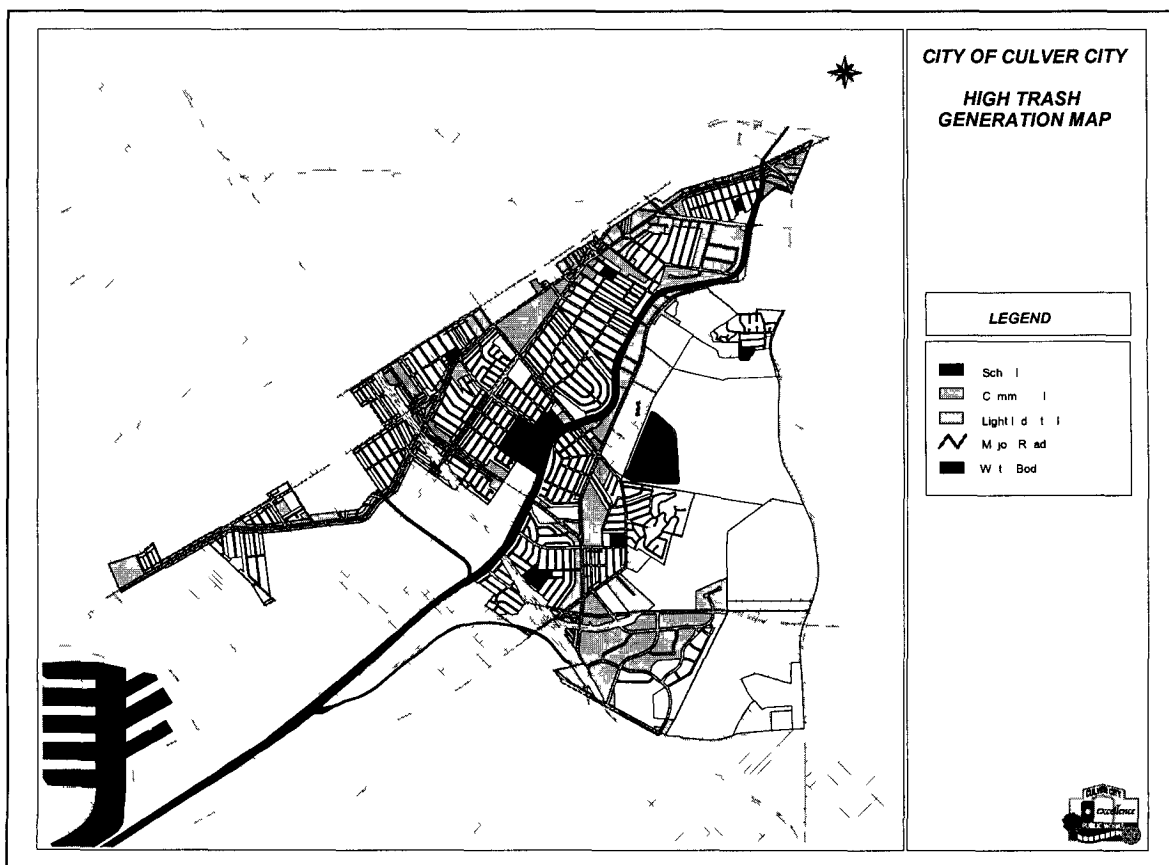
**Map 1 City of Culver City Drains to Ballona Creek**



**Map 2 City-owned Facilities, Including Many Proposed BMP Locations**



**Map 3 Catch Basins in City of Culver City Proposed for Retrofitting with 2-Tiered Full-capture Inserts**



**Map 4 High Trash Generation Areas Shown by Land use (Commercial, Industrial, and Schools)**

## **RESOLUTION NO 2005-R**

### **A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CULVER CITY, CALIFORNIA, ACCEPTING THE TERMS AND CONDITIONS OF THE GRANT AGREEMENT WITH THE STATE WATER RESOURCES CONTROL BOARD TO RECEIVE GRANT FUNDING FOR THE CULVER CITY CITY-WIDE BMP TREATMENT "TRAIN" PROJECT**

WHEREAS The State Water Resources Control Board has provided funding to the Santa Monica Bay Restoration Commission (SMBRC) through the passage of Proposition 50 (Chapter 5), the Water Security Clean Drinking Water Coastal and Beach Protection Act of 2002 for restoration of Santa Monica Bay in accordance with the goals and priorities of the Santa Monica Bay Restoration Plan and

WHEREAS The City of Culver City was approved for an \$1 252,660 grant to implement the Culver City City-wide BMP Treatment Train Project and

WHEREAS, All grant funds will be administered through a grant agreement with the State Water Resources Control Board

NOW THEREFORE the City Council of the City of Culver City, DOES HEREBY RESOLVE as follows

- 1 That the City of Culver City approves the receipt of grant funds from the State Water Resources Control Board for the implementation of the Culver City City-wide BMP Treatment Train Project approved by the Santa Monica Bay Restoration Commission, and

2 That the Chief Administrative Officer, or designee, as agent of the City of Culver City is authorized to execute and submit all documents which may be necessary for the completion of the grant award process

APPROVED and ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_ 2005

\_\_\_\_\_  
Albert Vera Mayor  
City of Culver City California

ATTEST

APPROVED AS TO FORM

\_\_\_\_\_  
Christopher Armenta  
City Clerk

\_\_\_\_\_  
CAROL A SCHWAB  
City Attorney

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