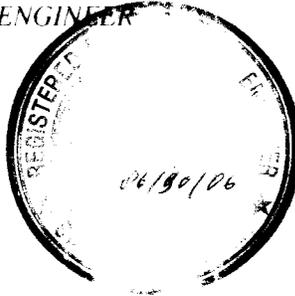


This Project Scope Summary Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

REGISTERED CIVIL ENGINEER

January 25, 2007

DATE



PROJECT SCOPE SUMMARY REPORT

Trash Total Maximum Daily Loads For Los Angeles River & Ballona Creek Phase 1C

1. Introduction

On September 19, 2001, the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) adopted the Trash Total Maximum Daily Loads (TMDL) for the Los Angeles River (the River) and Ballona Creek. The purpose of these TMDLs is to attain water quality standards for trash in the Los Angeles River and Ballona Creek, and to enhance water quality in both watersheds. The TMDLs set a numeric standard, zero (0), for trash discharge by storm water runoff into the water bodies. The TMDLs require a ten-year implementation program by reducing 10% of trash discharge each year until the zero discharge is achieved.

In response to the TMDL, the District is initiating projects to implement the program. The project scope summary reports (PSSRs) for Phase I (1st Year), Phase II (2nd Year) and Phase III (3rd Year) have been approved by the District and funded from SHOPP. Subsequently, the original Phase I was split for the number of projects – Phase I-A, EA 226614 (Route 405), Phase I-B, EA 2266A1 (Routes 5,10,90). Most selected outlet locations of the above projects contributed to the Ballona Creek watershed. The specified project limits for this Phase are entirely located in the Los Angeles river watershed area.

The freeway corridor selected for this project is Route 5 between Route 10 and Route 170. A detailed list of the selected freeway sections is provided in Table 1.

Total project cost is estimated at \$11,980,000. In addition to the costs of installing the trash capture devices, this cost also includes possible hazardous waste mitigation and disposal, storm water pollution control and prevention, maintenance access installation, and resident engineer's office. A cost summary is provided in Section 10. Detailed cost breakdown is provided in Attachment C.

2. Background

The California Water Quality Control Plan, Los Angeles Region (the Basin Plan), adopted by the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), sets standards for surface waters and groundwaters in the regions. These standards are comprised of designated beneficial uses for surface and ground waters. The standards identify numeric and narrative objectives necessary to support beneficial uses and the State's Antidegradation Policy. The standards are mandated for all water bodies within the State under the Porter-Cologne Water Quality Act (the California Water Code).

Section 305(b) of the federal Clean Water Act (CWA) mandates biennial assessment of the nation's water resources, with these water quality assessments being used to identify and list impaired waters. The resulting list is referred to as the 303(d) list. The CWA also requires the State to establish a priority ranking for impaired waters and to develop and implement Total Maximum Daily Loads (TMDLs). A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings to point and non-point sources. The United States Environmental Protection Agency (USEPA) has oversight authority for the 303(d) program. The USEPA approves the state's 303(d) lists and each specific TMDL.

As part of California's 1996 and 1998 303(d) list submittals, the LARWQCB identified the reaches of the Los Angeles River and Ballona Creek as being impaired due to trash. In January of 2001, the LARWQCB adopted the Order of Trash Total Maximum Daily Loads (Trash TMDL) for the Los Angeles River. A similar Trash TMDL was adopted for Ballona Creek in September of 2001. The numeric standard for these Trash TMDLs is currently set at zero (0). The Trash TMDLs specify a two-year optional baseline monitoring, then followed by a ten-year implementation program that requires reduction of trash discharge into the Los Angeles River and Ballona Creek by 10% each year until the zero discharge is achieved.

3. The Trash TMDLs -- Needs & Purpose

The purpose of the TMDLs is to eliminate trash discharges into the Los Angeles River in a progressive manner. Two suggested methods of removing trash from storm drain systems are installation of permanent structural devices such as end-of-pipe full trash capture devices and partial trash capture devices. A full capture device is defined as "Any device that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow during a one-year storm (determined to be 0.6 inch per hour for the Los Angeles River watershed)." The devices that do not meet the definition for a full capture device will be considered as partial capture devices. Other compliance methods like street sweeping and institutional controls including public education and law enforcement are also recommended.

Each municipal permittee of the National Pollution Discharge Elimination System permit (NPDES) such as cities, counties and State agencies has been assigned with a default trash load that is currently being discharged into the River and the Creek annually. The default trash loads for Caltrans are 225 cubic meters, (7,944 cubic feet) in the Los Angeles River watershed and 46.3 cubic meters, (1,635 cubic feet) in the Ballona Creek watershed.

The compliance schedule provided for two years of optional baseline monitoring followed by a 10-year implementation. Baseline monitoring allowed for refinement of the assigned default trash load by monitoring trash generation rates at various sample locations in the watersheds. During 10 years of implementation, an average of 10% reduction of trash load each year is required. The TMDL for the Los Angeles River targets implementation from 2003 through 2014.

An inventory of the District's storm drain outfalls and discharge points in Los Angeles County was completed in 2000. Based on the inventory database, 2197 outfalls and discharge points for the total of 6952 acres of tributary drainage area discharge to the Los Angeles River.

4. Implementation Strategy

It is recommended that full capture devices be implemented targeting 10% of the total drainage areas in the watersheds each year. The work involved includes design and construction of trash capture devices at or adjacent to storm drain outfalls or discharge points before storm water leaves Caltrans rights-of-way. An outfall is the end of a drain pipe that daylights within Caltrans right-of-way. A discharge point is a point in the storm water conveyance system, where storm water leaves Caltrans right-of-way or is connected to an underground separate storm drain system.

Every effort has been made to include as many locations as possible. However, site constraints have limited the number of locations proposed in this report. These constraints include but are not limited to existing traffic conditions, proximity to railroad tracks, underground utilities, and/or environmental conditions. Due to time constraint, full-scale investigation for every location is not possible at the present time. Nevertheless, the expected watershed drainage area covered in Phase 1C will include the maximum possible watershed drainage area for this purpose.

5. Project Scope

This project is intended to cover the Phase 1C. It is scheduled to begin in February 2007. The scope of this project includes design and construction of trash capture devices at or adjacent to outfalls or discharge points. Trash capture devices that are approved for implementation are Gross Solid Removal Devices (GSRD) such as Inclined Bar Rack and Linear Radial units. Combination of GSRD with other devices to achieve the maximum removal of pollutants from storm water is also under consideration. Possible strategies include biostrips, bioswales, detention basins, and various media filters.

6. Project Limits

The freeway sections on Route 5 not covered by the previous projects have been selected. These freeway sections are listed in Table 1 below. This table also provides information on drainage area and the number of outfalls in each section of the freeway. An area map highlighting the selected freeway sections is provided in Attachment A.

Table 1

Route	Post Miles		Interchanges		% WS	Drain Area (Acres)	No. of Outfall	Acres Per Outfall	Watershed Total In Acres
	From	To	From	To					
Los Angeles River									
5	18.42	20.44	10	110	0.8%	53.04	8	6.63	
5	20.44	22.55	110	2	1.0%	68.43	21	3.26	
5	22.55	36.28	2	170	5.2%	360.74	101	3.57	
Total						482.21	130		6,952.14
% of WS					6.94%				

Lists of outfall locations are provided in the Attachment B. It is anticipated that some of the outfalls identified during the field investigations as potential for retrofit will be constructed as a part of I-5 HOV widening projects, EA 133501, EA 121801 and EA 121901, and that some of the locations in conjunction with GSRD or instead of it will be equipped with other water treatment devices such as bio-swales, detention basins, media filters and others. Based on our recent experience with several TMDL projects in the District, only about 60% of the outfalls selected in the first stage of screening will be found suitable for construction by the Hydraulic Design Unit. Table 2 below summarizes the results of preliminary field investigation.

Table 2

SUMMARY			
ROUTE	TOTAL NO. OF OUTFALLS SURVEYED	POTENTIAL NO. OF OUTFALLS IDENTIFIED	PROBABLE NO. OF OUTFALLS RETROFITTED WITH GSRD
LA-5 From PM 18.42 to PM 36.28	130	61	36

7. Environmental Status

The Division of Environmental Planning in the District has reviewed this project. A conditional Categorical Exemption (CE) has been issued. A copy of this CE is included as Attachment E.

8. Storm Water Pollution Control and Prevention Plan

In compliance with the District Directives DD-31 and DD-81, Table 2-2 and Table 2-3 of the Storm Water Quality Handbook are provided in Attachment J. The new Storm Water Pollution Control standards will apply. Special Provisions, SSP 7-345, SSP 7-346, Water Pollution Control for SWPPP projects will be included in the Contract Special Provisions based on total area of soil disturbance including possible adjacent projects that may be underway concurrently.

Six percent (6%) of total construction cost has been incorporated in the total project costs for storm water quality control. In addition, Five percent (5%) of construction cost has also been included in the total project cost for possible hazardous waste mitigation and disposal.

9. Traffic Data and Impacts

Average Daily Traffic volumes (ADT) for the selected freeway sections are provided in Table 3 below. One of the selection considerations is to start the work in the areas where the traffic will be least impacted. Because the work for constructing trash capture devices is mostly off the traveled way, it is anticipated that the need for lane closures, detours and traffic control would be minimal.

Table 3

Route	Post Miles		Interchanges		ADT				
	From	To	From	To	Max.	PM	Min.	PM	Avg.
SB									
5	18.42	20.44	10	110	87,479	20.33	50,835	18.71	69,157
5	20.44	22.55	110	2	179,684	21.47	120,622	21.47	151,852
5	22.55	36.28	2	170	118,757	35.07	84,002	35.07	101,152
NB									
5	18.42	20.44	10	110	130,828	18.71	90,853	18.71	115,995
5	20.44	22.55	110	2	151,691	21.80	85,747	21.80	130,486
5	22.55	36.28	2	170	94,080	35.84	70,023	35.84	84,295

10. Cost Estimates

Project cost estimate is based on the construction of two permanent litter & Gross Solid Removal Devices (GSRD): the Linear Radial (LR) and the Inclined Bar Rack (IBR). These devices have been approved by Headquarters for implementation. For the purpose of preliminary cost estimates, it is assumed that Linear Radial devices will be installed for 50% while Inclined Bar Rack devices will be installed for 50% of total constructed GSRDs.

Costs are estimated based on the actual construction costs for the devices that were built in the most recent construction projects in District 7. Unit costs per area for each device are developed using the actual construction costs and tributary drainage area treated. District Office of Design D performed independent cost evaluations for the devices. These independent cost evaluations and detailed cost breakdown are provided in Attachment C.

<u>Structural Section Work</u>	<u>Lane-Kilometers</u>	<u>Number</u>	<u>Cost</u>
Rubberized AC (Type G) Overlay	None		\$0
Hot Recycled AC	None		\$0
Cold Recycled AC	None		\$0
Reconstruct Lanes(s)	None		\$0
AC Overlay of PCC Pavement	None		\$0
PCCC Overlay of PCC Pavement	None		\$0
PCC Pavement Rehabilitation	None		\$0
Ramps and OC/UC Approaches	None		\$0
Remove and Install AC Dike	None		\$0
Bridge Approaches (ground, replaced)	None		\$0
TOTAL Lane-Kilometers of Rehabilitation	None		\$0
<u>STRAIN Work**</u>	None		\$0
		Costs Subtotal	\$0

<u>Does the Project Include?</u>	<u>Yes/No*</u>	<u>Cost</u>
Main Line Widening (lanes and/or shoulder)	No	\$0
Bridge Widening and Rail Upgrade	No	\$0
Included in Project	No	\$0
Deferred (why)*	No	\$0
Bridge Rail Upgrade – Without Widening	No	\$0
Included in Project	No	\$0
Deferred (why)**	No	\$0
Vertical Clearance Adjustrment (VCA)	No	\$0
Drainage Rehabilitation	Yes	\$7,801,750
(List appropriate work type: roadbed surface, roadside, offsite, substitutes, etc.)**	No	\$0
Pedestrian Facilities	No	\$0
Alternations Required (List):**	No	\$0
	COSTS SUBTOTAL	\$7,801,750

Safety	<u>Yes/No*</u>	<u>Cost</u>
Rumble Strip	No	\$0
Superelevation Correction	No	\$0
Vertical Alignment	No	\$0
Horizontal Alignment	No	\$0
Kilometer Post/Markers/Traffic Striping	No	\$0
Metal Beam Guardrails	No	\$0
Median Barrier	No	\$0
Approach Bridge Guardrail (Terminal System-SRT)	No	\$0
K-Rail	Yes	\$132,480
Fence and Gates	Yes	\$36,800
Roadside Cleanup and Landscape	Yes	\$274,000
Hazardous Waste Mitigation	Yes	\$500,000
Fiber Optic Mitigation	No	\$0
Utility Relocation	No	\$0
Railroad Agreements	No	\$0

Right of Way	No	\$0
Environmental Mitigation	Yes	\$23,000
Traffic Management Plan – TMP (include COZEEP, FSB, Misc. Traffic management Items)	Yes	\$273,000
Temporary BMPs (including SWPPP, Implementation, and Maintenance)	Yes	\$305,000
Resident Engineer Office	Yes	\$163,500
COSTS SUBTOTAL		\$9,509,530
SUM SUBTOTAL		\$9,509,530
5% CONTINGENCY		\$475,470
TOTAL CONSTRUCTION COST		\$9,985,000
TOTAL SUPPORT COST		\$1,997,000
TOTAL PROJECT COST		\$11,982,000
CALL		\$11,980,000

11. Other Alternatives

Alternative “No Project”

The only other alternative is the “No Project” alternative. The “No Project” alternative would be considered non-compliant by the LARWQCB. It would certainly invoke enforcement action by the LARWQCB. Consequently, implementation of the program would remain a legal requirement. The cost and resources needed for implementation would most likely be much higher due to an accelerated schedule if the “No Project” alternative were to be chosen.

12. Other Agencies Involved

The LARWQCB will be enforcing and monitoring the implementation of the Trash TMDL. Potential locations that would require other agency’s involvement (for permits or agreements) will be excluded from the project.

13. Other Considerations

HAZARDOUS WASTE DISPOSAL SITE REQUIRED? IF YES, WHERE ARE SITES?

Only potential locations with no known hazardous waste disposal will be included in the Phase 1C.

MATERIALS AND OR DISPOSAL SITE NEEDS AND AVAILABILITY?

Five percent (5%) of the total construction costs for possible handling of lead contaminated soils and other hazardous materials has been included in the total project costs as indicated in Attachment C.

UTILITY INVOLVEMENT:

None, only locations with no utility conflicts will be included in the project.

RAILROAD INVOLVEMENT:

There is a Metrolink railroad that runs parallel to Route 5 in the vicinity of the project, however it is located within a distance sufficient to prevent a construction impact. No locations with railroad impacts will be included in the project.

CONSISTENCY WITH OTHER PLANNING:

No change to the existing facilities. Whenever possible, placement of the GSRDs will accommodate planned modifications to the existing facilities. There currently are several projects under design to construct HOV lanes on Route 5 (EA 133501, 121801, 121901). Any and all conflicting projects will be coordinated with the proposed construction activities.

SALVAGING AND RECYCLING OF HARDWARE AND OTHER NON-RENEWABLE RESOURCES:

Not applicable.

PROLONGED TEMPORARY RAMP CLOSURES:

None.

EFFECTS ON BICYCLE TRAFFIC:

None.

EFFECTS ON EXISTING ROADSIDE PLANTING:

In the existing landscaped area, vegetation will be cleared during construction. Since these devices have small footprints, impact to the existing planting is expected to be minimal. All areas disturbed during construction will be re-landscaped. Existing irrigation lines will be re-routed as necessary.

AESTHETIC ISSUES:

Trash capture devices have small footprints. They will be installed at grade as much as possible to reduce visual impact to the existing site conditions.

HEALTH ISSUES:

The trash capture devices are designed for low maintenance effort to reduce maintenance costs. The required maintenance frequency could be as little as once a year. It is possible that accumulated trash and incidental water ponding may invite rodents and promote mosquito growth. Vector abatement could be needed for certain locations.

ENVIRONMENTAL ISSUES:

No major environmental issues are anticipated. Only locations with no major environmental impacts will be examined in the project.

WHAT ARE THE CONSEQUENCES OF NOT DOING THIS ENTIRE PROJECT?

It would most likely invoke enforcement action by the LARWQCB or intervention from external stakeholders. This would consequently increase the costs and require more resources to attain compliance and require an accelerated schedule to implement.

14. Has the project been field reviewed by

District Division of Env. Planning, CE is included as Attachment E Date 09/26/06

ESC-MET Not Applicable Date _____

15. Project Reviewed by

District Maintenance Stormwater Coordinator Date 08/08/06

District Safety Quality Review Meeting conducted Date 10/10/06

HQ Division of Design Office of Storm Water Management Date 11/06

HQ Maintenance Program Not Applicable Date _____

FHWA Not Applicable Date _____

Type of federal Involvement: None

Others _____ Date _____

16. Proposed Funding

This project will be submittted for programming in the 2006 State Highway Operation Protection Program (SHOPP) and will be funded from the Storm Water Mitigation element of Environmental Improvement, 20.10.201.335.

17. Project Support

Fiscal Years	Design		R/W		Construction		Project Mgmt		total
	50%		5%		37%		8%		100%
06/07	0.50	499,250	0.70	69,895	0.01	7,389	0.50	79,880	
07/08	0.40	399,400	0.25	24,963	0.20	147,778	0.40	63,904	
08/09	0.10	99,850	0.05	4,993	0.79	583,723	0.10	15,976	
									Final cost
Subtotal	1.00	998,500	1.00	99,850	1.00	738,890	1.00	159,760	1,997,000

18. Project Schedule

Milestone	1st Group	Last Group	Working Days	Weeks
Begin Site Screening	6/1/06			
			151	30
Begin PS&E		12/30/06		
			196	39
PS&E TO DES-OE		9/30/07		
			23	5
End PS&E, Ready to List		11/1/07		
			24	5
Advertise		12/4/07		
			26	5
Bid Opening		1/10/08		
			43	9
Award		3/10/08		
			36	7
Begin Construction		4/30/08		
			435	87
End Construction		12/30/09		

19. Remarks

It's imperative to mention that the investigation and analysis of the suitability of the proposed GSRD's in so far as the existing field conditions and the type of outlets are concerned involves two distinct stages. In the first stage of screening, District Design and Maintenance personnel conduct a cooperative field investigation. The purpose of this stage is to separate and select outlets suitable for the proposed GSRD's based on the factors such as maintenance accessibility, conflict with bridge columns, abutments, retaining walls or other structures, conflict with utilities and type of outlet itself. Detailed explanation of this stage of screening can be found in Attachment "B" of this PSSR. The Summary at the end of the Attachment "B" indicates that only 61 outfalls out of 130 existing outfalls on the selected Route within the project limits were found to be suitable for further considerations.

The second stage of the screening process involves detailed hydraulic analysis, capacity of the outlets versus the inflow capacity of the GSRD, depth of the outlet pipe and other hydraulic design factors that may or may not make the outfall a suitable candidate for the proposed GSRD installation.

Based on our recent experience with several TMDL projects in the District, only about 60% of the outfalls selected in the first stage of screening will be found suitable in the second stage by the Hydraulic Design Unit. Therefore in Section 10, Cost Estimate and its detailed explanation in Attachment "C", a projected number of 36 outfalls out of selected 61 outfalls was assumed in the cost estimate. The cost estimate also includes the funds allocation for other permanent BMP treatment devices such as bio-swales/bio-strips and detention basins that could be constructed as part of this project.

20. List of Attachments

- A. Location Map
- B. List of Selected Outfall Locations and Field Investigation Report
- C. Estimated Project Costs
- D. Trash Capture Devices - Schematic Diagram
- E. Categorical Exemption
- F. Right of Way Data Sheet
- G. Initial Site Assessment
- H. Transportation Management Plan
- I. PSSR Performance Measures
- J. Storm Water Data Report