

## EXHIBIT 3-B

### Scope of Work - Canyon Del Rey Master Drainage Plan Update

#### INTRODUCTION

Canyon Del Rey Creek is an ephemeral stream that drains an area along Highways 68 and 218 from upstream of Laguna Seca west into Monterey Bay. The Monterey County Flood Control and Water Conservation District (since renamed as the Monterey County Water Resources Agency) completed a Master Drainage Plan for the watershed in June of 1977. Improvements were recommended in that study to reduce flooding and damage as a result of the expected 100-year return period flood. Another recommendation in that plan was “A periodic updating of the Master Plan to reflect actual conditions, as development occurs, is strongly recommended as the basis on which to provide for future conditions.”

To fund needed improvements, the 1977 study recommended both property tax assessments and fees for new developments. However, with the passage of Proposition 13 in June of 1978, property taxes were capped and only the development fee was initiated. The fund has accumulated approximately \$66,000 since that time and a portion of this fund is now proposed to be used to update the 1977 drainage plan and to identify improvements still needed in the watershed.

High flows in 1995 and 1998 in the watershed exposed several drainage problems in the watershed and confirmed some of the predictions made in the 1977 study, especially concerning headcutting in the creek and culvert sedimentation. The area of initial concern begins near the north end of Silver Cloud Court near the intersection of Highway 68 and York Road in Monterey County. The stream channel currently suffers from bank instability and erosion problems along adjacent private properties due to a variety of factors such as increased stream flows during rain events, changes in sediment supply in the watershed, and creekside development. Recent conditions in the watershed include:

1. The construction of a larger culvert at Boot Road. The previous smaller culvert detained water and reduced the flow downstream. With the larger culvert, high flow rates have been observed, which may be exacerbating the erosion seen downstream.
2. Several residential structures have been at risk of falling into the creek. Local property owners want a solution to this problem and believe that increased development within the watershed has contributed to bank erosion. It is also believed that increased development has also contributed to a decline in the water level of the aquifer supporting the Bishop unit of the California American Water Company. There are several detention, tertiary, and retention ponds currently operated within the watershed that may affect runoff quantity and aquifer recharge characteristics.
3. The failure of a major spillway on a detention pond near the entrance of the Pasadera development that has not been corrected.

The update to the study is a cooperative effort between the Monterey County Water Resources Agency (MCWRA) and the Monterey Peninsula Water Management District (MPWMD). MCWRA is providing funding and technical expertise while MPWMD will be the contracting

agency and also provide technical expertise. All work products described in this scope will be jointly reviewed by MCWRA and MPWMD staff.

## **SCOPE OF WORK**

The proposed project involves preparing a summary update of the Canyon Del Rey Creek Master Drainage Study to identify areas of constriction, erosion or impediment to flow and to provide direction for future structure upgrades in the watershed. Tasks to be completed under this project are as follows:

### **Task 1 – Watershed Assessment**

In this task, RMC will assess existing conditions in Canyon Del Rey (e.g., land use, drainage condition) and compare existing canyon conditions with those assumed in the 1977 Canyon Del Rey Creek Master Drainage Study for future conditions.

#### Subtask 1.1 – Watershed Characterization

Under this subtask, changes in land use and drainage facilities/structures that have occurred in the canyon between 1977 (when the original drainage master plan was prepared) and the present will be identified and documented. Major streambed or bank alterations, repairs or restorations will be noted as part of this task. Existing drainage conditions (as documented above) will be compared against the “future” conditions as identified in the 1977 report to determine if assumptions made in that report are still valid for the present day

Additionally, as part of the watershed characterization, local hydrogeology, as documented in the *Seaside Groundwater Basin Update* and other similar reports, will be used to preliminarily evaluate surface water-groundwater interactions in the drainage with a goal of screening potential locations for improving groundwater recharge.

#### Subtask 1.2 – Watershed Evaluation

This subtask will consist of two actions, both designed to identify problem areas within the canyon drainage.

*Resident Survey* - RMC will prepare and conduct a survey with no more than 10 questions to submit to a representative group of area residents and businesses located along the creek. The survey will be distributed to residents/businesses via U.S. Mail with an expected similar return. The results of the survey will be used to identify problem areas along the creek and to determine the extent of erosion and flooding problems that have been occurring.

*Field Evaluation* - RMC will conduct a field survey of existing conditions during both a rain and non-rain event to assess and document areas of potential problems as identified by the surveys. A map of the identified areas will be prepared, and the results of this subtask will be used in Task 2, discussed below.

### Subtask 1.3 – Technical Memorandum

Results of Watershed Characterization (Subtask 1.1) and Watershed Evaluation (Subtask 1.2) will be documented in a Technical Memorandum (TM). The map prepared as part of the field evaluation of Subtask 1.2 will also be included in this TM, as will a list of areas where projected future conditions (as documented in the 1977 drainage study) are significantly different from current conditions.

### **Task 2 – Prioritization for Detailed Analyses**

In this task, identified problem areas will be prioritized for additional detailed analyses in order to determine possible alternatives for drainage improvement. This prioritization process will be conducted jointly by RMC, MCWRA and MPWMD in order to reflect hydrologic conditions and regional priorities. A brief Technical Memorandum will be prepared documenting the results of the site prioritization.

### **Task 3 – Detailed Hydrologic Analyses**

As directed by MPWMD and MCWRA, RMC will conduct detailed hydrologic and hydraulic analyses of prioritized locations using a variety of methods (e.g., HEC-RAS, Unit Hydrograph) on a time and material basis up to the authorized budget limit. If insufficient detailed information exists for conducting the detailed analyses, RMC will alternatively prepare a plan outlining significant data gaps, recommending investigations for additional information, describing data requirements for the detailed analyses, and recommending approaches for conducting the detailed analyses (including model type, if applicable). Under the best-case scenario, it is estimated that up to three or four specific sites may be evaluated in order to identify and size appropriate drainage improvements for those locations. If detailed analyses are conducted, a Technical Memorandum will be prepared documenting the analyses and presenting the recommended facility improvements.

### **Task 4 - Project Management**

This task consists of standard project management tasks, including scheduling, budget tracking, invoicing, and general project communications. Also included in this task are regular communications with both Monterey Peninsula Water Management District and Monterey County Water Resources Agency, conference calls as required, and monthly progress reporting. Finally, RMC will implement its Quality Assurance program for the project as part of this task to ensure that all work products receive appropriate quality control reviews.

**CANYON DEL REY CREEK DRAINAGE EVALUATION  
ESTIMATED FEE**

Item	Principal \$215 per hour		Project Manager \$185 per hour		Project Engineer II \$155 per hour		Graphics Support \$115 per hour		Accounting \$115 per hour		Admin \$110 per hour		Total RMC Cost Hours		Other Direct Costs	ODC Markup 10%	Total ODC Costs	Total Cost
	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours						
<b>Task 1: Watershed Assessment</b>																		
Subtask 1.1 - Watershed Characterization	\$0	0	\$370	2	\$2,325	15	\$0	0	\$0	0	\$0	0	\$2,695	17	\$100	\$10	\$110	\$2,805
Document Changes in Urbanization Patterns						5												
Document Changes in Drainage Structures and Facilities						5												
Compare Existing Conditions with 1977 "Future" Conditions				2		5												
Subtask 1.2 - Watershed Evaluation	\$0	0	\$925	5	\$9,920	64	\$2,760	24	\$0	0	\$0	0	\$13,605	93	\$100	\$10	\$110	\$13,715
Resident Survey																		
Identification of Problem Locations				1		4												
Survey Residents				2		16												
Field Evaluation																		
Field Survey of Site Conditions						32												
Prepare Map of Problem Locations				2		12		24										
Subtask 1.3 - Technical Memorandum	\$430	2	\$1,110	6	\$1,550	10	\$230	2	\$0	0	\$220	2	\$3,540	22	\$50	\$5	\$55	\$3,595
<b>Task 2: Prioritization for Detailed Analyses</b>	\$430	2	\$1,480	8	\$1,240	8	\$230	2	\$0	0	\$220	2	\$3,600	22	\$50	\$5	\$55	\$3,655
<b>Task 3: Detailed Hydrologic Analyses</b>	\$1,720	8	\$7,400	40	\$6,200	40	\$1,840	16	\$0	0	\$880	8	\$18,040	112	\$100	\$10	\$110	\$18,150
Scope of detailed hydrologic/hydraulic analyses is site- and situation-dependent		8		40		40		16				8						
<b>Task 4: Project Management</b>	\$1,720	8	\$7,400	40	\$2,480	16	\$0	0	\$920	8	\$0	0	\$12,520	72	\$500	\$50	\$550	\$13,070
Project Communications		4		16		16												
QA/QC		4		24						8								
<b>Totals</b>	<b>\$4,300</b>	<b>20</b>	<b>\$18,685</b>	<b>101</b>	<b>\$23,715</b>	<b>153</b>	<b>\$5,060</b>	<b>44</b>	<b>\$920</b>	<b>8</b>	<b>\$1,320</b>	<b>12</b>	<b>\$54,000</b>	<b>338</b>	<b>\$900</b>	<b>\$90</b>	<b>\$990</b>	<b>\$54,990</b>

