MRCA Item 5(j)
June 3, 2009

Penfield & Smith

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Civil Engineering

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Water Resources Engineering

GIS

W.O. 13638.07

April 24, 2009

Ms. Lisa Soghor
Mountains Recreation and Conservation Authority
570 W. Avenue 26, Suite 100
Los Angeles, CA 90065

Subject: **Proposal – Hydrologic and Hydraulic Analysis**
Coastal Slope / Malibu PWP
Ramirez Canyon to Corral Canyon

Dear Ms. Soghor:

Penfield & Smith is pleased to submit this *updated* proposal for a study to assess the potential hydrologic impacts of the proposed improvements within the riparian corridors for the above referenced project. It is anticipated that the assessed impacts may include flooding, local scour, erosion, and aggradation in the affected creek channels.

UNDERSTANDING OF PROJECT REQUIREMENTS

It is our understanding that the Conservancy would like determine the impact of the one percent chance, two percent and ten percent chance storm event (100-year storm, 50-year and 10-year) runoff at various places within the Santa Monica Mountains Conservancy domain, most particularly for the proposed roughly five miles of east-west backbone trail between Ramirez & Corral Canyons including several parking lot improvements.

Given the large size of the watersheds and locale, we plan to use the Los Angeles County hydrology methods. Much of the basic information for this area has been compiled digitally and is available for use within our GIS analysis programs.

The primary watersheds included in our study will include:

- Ramirez Canyon
- Escondido Canyon
- Latigo Canyon
- Solstice Canyon
- Dry Canyon
- Corral Canyon

SCOPE OF WORK

Based on our understanding of the project, we propose the following scope of work:

1. Research – Determine the locations of interest and the amount of detailed information available for each site. If necessary, make a site visit to the critical locations.
2. Field Investigation – visit each location of interest, if accessible, and photographically document the existing conditions within the channel at the site as well as upstream and downstream.
3. Data Acquisition – download USGS digital elevation models (DEMs) and create a graphical representation of the study area. Locate, if possible, digital land use data for the project area. Locate detailed proposed project information as available.
4. Watershed Analysis – delineate the various watersheds (as noted above) and then divide those larger watersheds into a number of smaller subwatersheds of approximately 40 acres each.
5. Hydrologic Analysis – extract from available public sources the land use, soil type, time of concentration, and other pertinent data for each of the subwatersheds. Estimate the peak flowrates (10-year, 50-year, 50-year burned and bulked, 100-year) for each of the subwatersheds. Identify the peak flowrates for the key locations of interest.
6. Hydraulic Analysis – Based on the available level of detail for the topographic information, prepare two HEC-RAS analyses for each of the key site locations (pre-project and post-project) which will help identify the level and extent of inundation as well as the flow velocity and other hydraulic impacts due to the proposed projects.
7. Exhibit Preparation – Using the information acquired in the hydrologic and hydraulic analyses, prepare exhibits which will graphically illustrate the results and provide concept sketches for recommendations for design alterations, if necessary.
8. Draft Summary Report – Prepare a brief report which summarizes the methods and procedures, software, assumptions, and results from the analysis phases. It will also provide recommendations for remediation of significant impacts that may result from the proposed improvements.
9. Draft Report Review – Coordinate with other members of the team to obtain input and review comments on the draft report prior to submission of a final report.
10. Final Report Submittal – Revise draft report in accordance with input and comments received. Submit two (2) copies of the final report.

Deliverables:

- Two (2) hard copies of the Summary Report and Exhibits
- One (1) electronic copy of the Summary Report and Exhibits

SERVICES NOT INCLUDED

The following services and all other services not specifically listed herein are excluded:

1. Reimbursable expenses, such as photocopies, postage, shipping/delivery, mileage, prints, maps/documents.

2. Governmental and public agency fees, cost of bonds and taxes.
3. Surveying services of any type.
4. Title Company reports, services and fees.
5. Services by consultants other than P&S.
6. Services beyond report preparation and concept-level recommendations for design alterations.

CLIENT TO PROVIDE

Client or co-consultant at Client's direction shall provide the following items to Penfield & Smith:

- Access to proposed project site locations
- Applicable correspondence with public agencies regarding the requirements or expectations of this work.
- Access to mapping and other materials that may be available for the project area.

PROPOSED FEE AND METHOD OF PAYMENT

Our proposed services will be performed on a time and materials, not to exceed basis and shall be billed monthly at the rates then in effect. Charges for "time" include professional, technical and clerical support services provided by Penfield & Smith. "Materials" include all reimbursable expenses, such as photocopies, postage, shipping/delivery, mileage, plots, prints, maps/documents and outside consultant fees.

Payment is due on receipt of statements (net 30 days). Unpaid account balances are subject to a finance charge which will be the lesser of one and one-half percent (1 ½ %) per month or a monthly charge not to exceed the maximum legal rate. This fee shall be applied to any unpaid balance commencing thirty days after the original billing. If an account is unpaid and would be subject to a finance charge, we may consider this as constructive notice to suspend work.

Based on our understanding of your requirements and our experience with similar projects, we estimate that the fee required for our services will be approximately **$45,000** including reimbursable expenses.

We have estimated the cost of our services based on our understanding at this time of the scope and complexity of the work. However, please note that during the performance of our services, the need for additional or expanded services may be determined. We will keep you informed of our progress and shall require your authorization to for services that exceed the scope and/or fee estimate limits.

ADDITIONAL SERVICES

Services performed outside the scope of this agreement require written approval prior to performance of the work. Design changes by Owner/Client or designee after the start of design shall be considered additional services. Any work requested by Owner/Client that is outside the scope of this agreement will be identified by Penfield & Smith as such, and a fixed fee or not-to-exceed amount will be agreed upon

prior to the start of the additional work. Compensation for additional services shall be in accordance with Exhibit "A", Penfield & Smith's Billing Rate Schedule currently in effect.

TIME OF PERFORMANCE

Based on our current workload, we estimate that the summary report and results can be completed in approximately 5 weeks from the notice to proceed. Note that time does not include review time by others.

AUTHORIZATION

Should you have any questions, please feel free to contact me on my direct line at (805) 963-9538, extension 108. If this proposal is agreeable with you, please provide an amendment to the existing contract. Thank you for allowing us to assist you on this important project.

Very truly yours,

PENFIELD & SMITH

Bret Foster, P.E.
Project Engineer
RCE 48,267
Expires 6/30/10

Enclosures

EXHIBIT A
PENFIELD & SMITH
BILLING RATES EFFECTIVE JANUARY 1, 2009

Engineering

Engineering Technician	$73
Associate Technician	83
Senior Technician	93
Designer	110
Senior Designer	125
Junior Engineer	88
Assistant Engineer	110
Associate Engineer	130
Senior I Engineer	145
Senior II Engineer	160
Principal Engineer	180

Geomatics (Surveying & Mapping)

Survey Technician	$68
Junior Surveyor	85
Assistant Surveyor	105
Associate Surveyor	120
Senior I Surveyor	135
Senior II Surveyor	150
Principal Surveyor	172
One-Man Survey Crew	$155
Prevailing Wage	170
Two-Man Survey Crew	200
Prevailing Wage	230

Planning

Planning Technician	$68
Junior Planner	83
Assistant Planner	100
Associate Planner	115
Senior I Planner	130
Senior II Planner	145
Principal Planner	160

Construction Management

Construction Technician	$88
Assistant Construction Manager	110
Associate Construction Manager	125
Senior I Construction Manager	145
Senior II Construction Manager	155
Principal Construction Manager	180
Construction Inspector	$83
Prevailing Wage	110
Senior Construction Inspector	98
Prevailing Wage	115
Chief Inspector/Owner's Representative	110
Prevailing Wage	120

Geographic Information Systems (GIS)

GIS Technician	$85
GIS Analyst	125
GIS Principal	165
IT Specialist	165

General

Technical/Clerical Support	$65
Environmental Specialist	175
Senior Program Manager	175
Special Consultant	200

(Principal with specialized skills in engineering, geomatics or planning)

Rapid Response = Minimum charge of four (4) hours at 1.5 times the regular rate

Expert Witness/Deposition Rate = two (2) times regular rate

Out-of-town Survey Crew Travel = 1/2 times regular rate

Outside Consultant ..... Cost + 15%

Reimbursable Expenses ..... Cost + 15%

In-house reimbursable expense rates available upon request.

Note: Adjustments to rates are normally made on January 1st, however, Penfield & Smith reserves the right to make adjustments at any time.

Penfield & Smith

PROJECT COST ESTIMATE

Project No.: 13638.07
Description: Hydrologic and Hydraulic Analysis
Client: Mountains Recreation and Conservation Authority
Date: April 24, 2009
File Name: 13638.07 est Hydrology Study v2.xls

Prepared by: cas
Office: 1
Billing Type: T&M
Prevailing Wages (y/n): n

PENFIELD & SMITH
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TASK	Principal Engineer	Senior II Engineer	Assoc Engineer	Senior Designer	GIS Principal	Tech Support											TOTAL HOURS	LABOR COST
	Hours																	
Research	4		8														12	1760
Field Investigation	16		16			8											40	5480
Data Acquisition	6	12			4	4											26	3920
Watershed Analysis	6		12	12													30	4140
Hydrologic Analysis	4		24		8												36	5160
Hydraulic Analysis	6	8	16														30	4440
Exhibit Preparation	2	6	16	12		8											44	5420
Draft Summary Report	12		16			8											36	4760
Draft Report Review	8					6											14	1830
Final Report Submittal	2		10			8											20	2180
Proj Management and Quality Control	30																30	5400
TOTALS	96	26	118	24	12	42	-	-	-	-	-	-	-	-	-	-	318	44490

Classification		$/hr
12	Principal Engineer	180.00
11	Senior II Engineer	160.00
9	Associate Engineer	130.00
6	Senior Designer	125.00
39	GIS Principal	165.00
43	Technical Support	65.00
Average Rate		139.906

Classification	$/hr

Expenses		Cost	Billing Factor	Reimbursables	Consultant
Soils Report	*		1.15		0
Geologic Report	*		1.15		0
Title Report	*		1.15		0
Construction Staking	*		1.15		0
Blueprints		100	1.15	115	
Travel	*		1.15	0	
Mail		50	1.15	57.5	
Telephone/Facsimile	*		1.15	0	
Photocopies		300	1.15	345	
Photographs	*		1.15	0	
				$518	$0

Grand Total = $45,008