

**CITY OF HAYWARD**  
**AGENDA REPORT**

AGENDA DATE 09/10/02

AGENDA ITEM 8

WORK SESSION ITEM \_\_\_\_\_

**TO:** Mayor and City Council

**FROM:** Director of Public Works

**SUBJECT:** Water Mains and Sewer Mains Seismic Retrofit Projects – Authorization for Execution of an Agreement for Professional Engineering Services

**RECOMMENDATION:**

It is recommended that the City Council adopt the attached resolution, which authorizes the City Manager to execute an agreement with MMI Engineering, Inc., for professional engineering services to prepare plans and specifications for the Water Mains and Sewer Mains Seismic Retrofit projects, in an amount not to exceed \$200,000.

**BACKGROUND:**

The primary goals for the Water Mains and Sewer Mains Seismic Retrofit projects are to minimize the impact of an earthquake on the water and sewer systems in the areas where major utilities cross the Hayward Fault. The objectives of the seismic retrofit projects are to develop a strategy that will allow the City to quickly isolate and bypass the damaged sections of the pipeline, rather than “earthquake proof” the pipeline, which may not be practical. This scheme would enable the City to quickly restore service after a major earthquake on the Hayward Fault.

The primary hazards to the City’s water and sewer pipelines are at locations where pipelines cross the Hayward Fault. There are approximately 30 major utility crossings along the Hayward Fault within the City. The Hayward Fault is considered as the fault most likely to produce a large (Magnitude 7.0) earthquake in the next 30 years. The most recent fault displacement estimates for a major earthquake for the Hayward fault is on the order of 4 to 6 feet. Buried pipelines, whether strengthened or not, cannot reliably withstand fault displacements of this magnitude. The pipelines crossing the Hayward Fault will most likely be damaged during a significant seismic event.

Based on the preliminary understanding of the projects, the Water Mains Seismic Retrofit Project may involve installation of isolation valves on either side of the fault to rapidly isolate the damaged pipeline and using flexible hoses to bypass the damaged sections of the pipeline at various locations within the City. The retrofit scheme for the Sewer Mains Seismic Retrofit

Project will be similar to the Water Mains Retrofit Project and may include isolating and bypassing damaged pipelines but with provisions for pumping wastewater across the fault, or creating temporary storage locations or rerouting damaged sewer lines. The final selected retrofit strategy may vary from the above description, because it will be selected based on the findings and results of the evaluation and study by the consultant.

**Consultant Selection:**

Upon review of the qualifications from ten consultants, five firms were asked to submit proposals for professional services. Three of the five consultants submitted proposals for the City's consideration. MMI Engineering, Inc. (MMI) was selected as the most qualified firm. The selection was based on a review of: (1) the relevant experience of each firm; (2) the experience and qualifications of the project manager and design team of each firm; (3) the method of work proposed by each firm; and (4) the resources, project controls, and quality assurance of each firm.

MMI proposed to use MBE/WBE subconsultants for 5 percent of the work. MMI's fee, labor-hours, and percentage of MBE/WBE participation were competitive with other consultants. Based on an analysis of the number of staff-hours proposed by other consultants, staff has concluded that the final negotiated not-to-exceed cost of \$200,000 from MMI is reasonable for the scope of services required.

**Project Cost (Water Mains Seismic Retrofit at Hayward Fault Crossing):**

Design & Survey	\$ 150,000
Construction Cost	897,000
Inspection & Administration	<u>90,000</u>
Total:	\$ 1,137,000

**Project Cost (Sewer Mains Seismic Retrofit at Hayward Fault Crossings):**

Design & Survey	\$ 50,000
Construction Cost	353,000
Inspection & Administration	<u>20,000</u>
Total:	\$ 423,000

**Funding:**

The 2002-03 Five Year Capital Improvement Program (CIP) includes \$1,137,000 for the Water Mains Seismic Retrofit at Hayward Fault Crossing project in the Water System Replacement Fund and \$423,000 for the Sewer Mains Seismic Retrofit at Hayward Fault Crossing project in the Sewer Capital Improvement Fund.

**Schedule:**

The following tentative project schedule has been developed for these projects:

Begin Evaluation and Design	October 2002
Call for Bids	May 2003
Award Construction Contract	July 2003
Begin Construction	August 2003
Construction Completion	April 2004

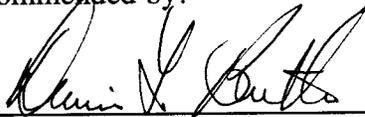
The attached resolution authorizes the City Manager to execute a time and material's agreement with the firm of MMI Engineering, Inc. for a maximum amount not to exceed \$200,000 for professional engineering services.

Prepared by:



Alex Ameri, Deputy Director of Public Works

Recommended by:



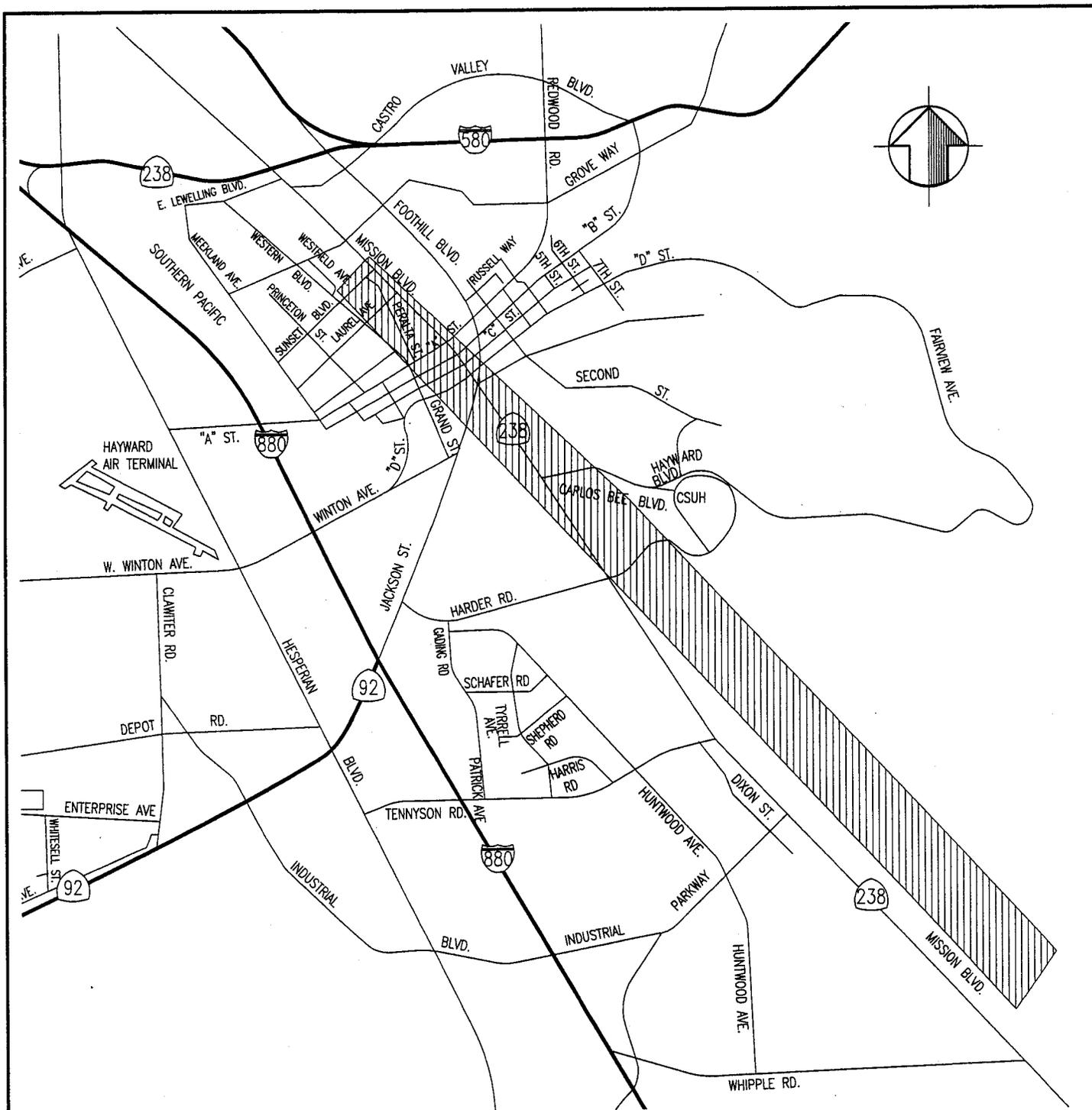
Dennis L. Butler, Director of Public Works

Approved by:



Jesús Armas, City Manager

Attachment: Exhibit A - Project Location Map



**LEGEND:**     PROJECT AREA

**PROJECT LOCATION MAP**

**WATER MAINS AND SEWER MAINS  
SEISMIC RETROFIT PROJECTS  
PROJECT NO. 623-7164 & 613-7510**

**EXHIBIT "A"**

*WJH 8/28/02*

**DRAFT**  
HAYWARD CITY COUNCIL

RESOLUTION NO. \_\_\_\_\_

Introduced by Council Member \_\_\_\_\_

RESOLUTION AUTHORIZING THE CITY MANAGER  
TO EXECUTE AN AGREEMENT WITH MMI  
ENGINEERING, INC. FOR PROFESSIONAL  
ENGINEERING SERVICES FOR THE WATER MAINS  
AND SEWER MAINS SEISMIC RETROFIT PROJECTS,  
PROJECT NOS. 7164 AND 7510

BE IT RESOLVED, by the City Council of the City of Hayward that the City Manager is authorized to execute on behalf of the City of Hayward an agreement for professional engineering services by and between the City of Hayward and MMI Engineering, Inc., to prepare plans and specifications for the Water Mains and Sewer Mains Seismic Retrofit Projects, Project Nos. 7164 and 7510, in an amount not to exceed \$200,000, in a form to be approved by the City Attorney.

IN COUNCIL, HAYWARD, CALIFORNIA \_\_\_\_\_, 2002

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:  
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: \_\_\_\_\_  
City Clerk of the City of Hayward

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney of the City of Hayward