Agenda Report

TO: City Council
Attention: Finance Committee

DATE: January 25, 1999

FROM: City Manager

SUBJECT: City Hall Seismic Upgrade

RECOMMENDATION:

It is recommended that staff be directed to set up community meetings to discuss the alternatives and costs with the Pasadena community.

BACKGROUND:

The Pasadena City Hall is a monumental civic structure. The architect for the building was Bakewell & Brown and the structural engineer was C.H. Snyder. There have been virtually no major alterations to the structure since its construction in 1927, although interior renovations have taken place. The Pasadena City Hall is listed on the national historic register.

After the Northridge earthquake, January 1994, the City of Pasadena authorized Forell/Elsesser Engineers, Inc. to provide a structural inspection and evaluation of the City Hall. The purpose of this investigation was to assess earthquake related strengths and weaknesses of the building and to develop seismic upgrade recommendations using modern seismic engineering standards/codes.

In general, the performance of the Pasadena City Hall in a major earthquake is expected to be poor. The estimated large displacements are typically well beyond the capacities of the existing structure and may result in serious hazards and the potential for structural instability and as well as loss of life.

Given the serious deficiencies and potential life safety hazards of the City Hall structure it was determined that some level of upgrade is required to attain a reasonable level of performance in a major earthquake.

After consideration of several alternatives, they were narrowed down to three levels of seismic upgrade with progressively higher levels of performance. All three levels of upgrade however meet the following two basic goals: 1) to ensure life safety by preventing building collapse and 2) to limit damage to a repairable level. The lowest seismic upgrade level is intended to meet these two goals. Two higher levels of performance were established to provide higher levels of building protection and/or continued function.

The engineers have studied several alternatives and they were narrowed to the following:

Alternate A: No Upgrade of Structure **Budget Estimate $35.6 million***
In this alternate, there will be no construction therefore there is no impact on the interior space. After a major earthquake, possible loss of life due to partial structural collapse and falling hazards is high. The building would be irreparable and would have to be replaced. The cost of replacement will be high, estimates are over $125 million without land. If no upgrade is performed, money will nevertheless need to be spent on maintenance and upgrade of systems as the present building falls short of current codes, hence the budget estimate above.

Alternate B: Shear walls **Budget Estimate $62.8 million***
In this alternate, the concept is to, build concrete shear walls, reinforce floors at the tower and demolish and rebuild the arcade out of concrete. The duration of construction work will be approximately 22 months. There will be some permanent impact on interior space. After a major earthquake, damage would be moderate and the building will be safe to occupy. The building would not be functional for approximately 6 months or more when the repairs are being made. The cost of repair would be moderate. **This alternate does the most damage to the historic fabric of the building.**

Alternate C: Shear Walls and New Office Wing **Budget Estimate $77.7 million****
In this alternate, the concept is to, build shear walls, reinforce floors at the tower, demolish the arcade and build a new office wing. Originally the building was designed with the fourth wing instead of the arcade. This fourth wing will help stabilize the structure. The duration of construction work will be approximately 22 months. There will be a limited permanent impact on interior space. After a major earthquake, damage will be moderate and the building will be safe to occupy. The building would be functional in less than six months. The cost of repair would be moderate. There will be a net gain of usable floor area because of construction of the fourth wing. The Emergency Operation Center (EOC) could be located within the City Hall. **This alternate does some damage to the historic fabric of the building.**

Alternate D: Base Isolation and New Office Wing **Budget Estimate $71.8 million****
In this alternate, the entire building will be placed upon isolators including the new office wing. The entire structure would be base isolated with isolators located at the bases of the columns. The isolators will isolate the foundation from the super structure. The duration of construction work will be approximately 22 months. During an earthquake the isolators would be displaced with the ground movement and the building will have minor to no damage. The base isolators therefore for the most part eliminate post-earthquake repairs. After a major earthquake, damage will be minor and easily repairable. The building will be safe to occupy post-earthquake in a few days. With the new office wing there will be net gain of usable floor area. The Emergency Operation Center (EOC) could be located within the City Hall addition. **The historic fabric of the building is essentially left as is and architectural renovation can be most effective.**

* Budget estimates does not include money for an EOC or for a new Council Chamber.
**Budget estimates does not include money for an EOC, estimated at $1.5 million.

A steering committee was formed by the City Managers office, in early 1998, to make its recommendation as to which alternate to select. The steering committee was made of residents of Pasadena including architects, engineers and members familiar with historic preservation.

The steering committee determined it was important that the scheme selected offer minimum damage to the historic fabric of the building and provide the highest level of life safety, building protection and continued function. The Steering committee, in December 1998, made a recommendation to staff to select alternate D.

FISCAL IMPACT:

The preliminary estimate for the recommended construction alternate is approximately $70.6 million, (alternate D) and FEMA has obligated a grant for the project for $6.6 million. Staff is investigating a number of other sources including energy and historical preservation grants and local property and parking taxes.

Respectfully submitted,

CYNTHIA J. KURTZ
City Manager

Prepared by:

DHIREN SHAH, Project Manager
Capital Projects

Reviewed by:

ROBERT ALLEN REED, AIA
City Architect

Approved by:

JACK A. LIDYARD, Acting Director
Public Works and Transportation Dept.