Background Information

for

City Hall Center Project

Stockton, California

Prepared For:

City of Stockton
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# TABLE OF CONTENTS

1. INTRODUCTION .................................................................................. 1

2. CITY HALL - BACKGROUND ................................................................. 1

3. CITY HALL - HISTORIC BUILDING ......................................................... 2

4. CITY HALL - EXISTING PHYSICAL CONDITION ................................. 2
   A. Plumbing System ........................................................................... 3
   B. Electrical System .......................................................................... 4
   C. Earthquake Study ......................................................................... 5

5. CITY HALL - RENOVATION & SPACE PLANNING ............................... 5
   A. RFP - City Hall Center Project ..................................................... 7
      A.1 Phase I - RFP Scope of Services ........................................... 7
      A.2 Phase II - RFP Scope of Services ......................................... 9
      A.3 Phase III - RFP Scope of Services ....................................... 10
   B. Selection of Architectural Consultant ......................................... 10

6. CITY HALL CENTER PROJECT - ESTIMATED COST ....................... 11
   A. Electrical Improvements - Existing City Hall .............................. 11
   B. Plumbing Improvements - Existing City Hall .............................. 13
   C. Seismic Improvements - Existing City Hall ................................. 13

APPENDICES

Appendix A - City Hall - Plumbing Study on Existing Conditions .......... A-1
   Photographs of Existing Conditions .............................................. A-10

Appendix B - City Hall - Electrical Study on Existing Conditions .......... B-1
   Photographs of Existing Conditions .............................................. B-25

Appendix C - City Hall - Earthquake Study on Existing Conditions ........ C-1

Appendix D - City Hall Center Project - ACMA'S Scope of Services .......... D-1
STOCKTON CITY HALL CENTER PROJECT

1. INTRODUCTION:

The City Hall Building (City Hall) doesn’t meet fire codes, it could collapse in a 1906 San Francisco style earthquake, the existing plumbing system is old and in need of replacement, the electrical system is outdated and does not meet code requirements, and the City can’t add additional staff without leasing space to house them. Phase I of the City Hall Center Project would address all of these problems and a plan would be prepared to solve them. In December 1994, the City Council adopted a Request for Proposal (RFP) to provide architectural services for Phase I of the City Hall Center Project.

It is anticipated that the City Hall Center Project would be developed in three Phases. Phase I would include determining what needs to be done to renovate City Hall, space planning for existing and future staff, how the project should be staged, and a preliminary cost estimate. Phase II would include the preparation of the plans and specifications for the City Hall Center Project. Phase III would involve the construction of the improvements. The RFP for the City Hall Center Project is designed such that the City Council could halt the project after anyone of the phases.

The City has received proposals from five architectural firms and the Consultant Selection Committee selected Albert C. Martin & Associates (ACMA) as its first choice. City staff is evaluating the ACMA scope of services (attached as Appendix D) and are recommending that the City Council look at some other city hall projects, to help the Council determine what they would like to see in the City Hall Center Project before the scope of services for the project are finalized. After the Council members have seen some other city hall projects, staff would like to have the Council go back and look at the scope of services and make sure that it covers everything that the Council would like to see in the project.

The purpose of this report is to provide the City Council with background information on why the City Hall Center Project is needed and the status of the project at the present time.

2. CITY HALL - BACKGROUND:

The Stockton City Hall Building (City Hall), constructed in 1926 is representative of many public buildings built in California in the early twentieth century. It is a three-story building of reinforced brick masonry and concrete columns with a clay tile roof, terracotta facing on the exterior, and imitation stone and plaster on the interior walls.

City Hall was first occupied in 1926 when Stockton had a population of 44,130 compared to a population of 234,009 in 1995. This represents a 530% increase in the population of the City since the City Hall was constructed.

Natural light and air were originally introduced into the central core areas of the building by
large windows in the exterior walls and two full height (three story) light wells. The light well was also a typical element in many buildings of that time period. The light wells have since been removed and the floor area recaptured to provide additional space for the expanding administrative departments and services of a growing city.

City Hall has been in continuous use since it was first occupied in 1926. As a result, many alterations and building modifications have been made to improve the function and the quality of space for the employees working there, i.e. HVAC system, fire and life safety modifications, lighting and electrical upgrade. In the process of making these changes, finish materials have been introduced which were not part of the original building - suspended ceiling system, acoustical ceiling tile, fluorescent light fixtures, gypsum board partitions, etc. These changes occur mainly in the non-public areas of the building.

City Hall is over 68 years old and will require major renovation in order to comply with current codes for mechanical, electrical, plumbing, fire safety, seismic upgrading and handicapped access requirements.

3. CITY HALL - HISTORIC BUILDING:

In 1983, the Stockton Cultural Heritage Board recommended that the Stockton City Council designate City Hall as an historical and cultural landmark. In March 1983, a resolution designating City Hall as an historical and cultural landmark was adopted by the Stockton City Council. In addition, the City Hall Building is listed on the State Registry of Historic Buildings. As an historic building, there is a responsibility to protect and preserve the building as physical documentation of the economical and political history of Stockton, and as an example of the design and construction techniques of that time period.

4. CITY HALL - EXISTING PHYSICAL CONDITION:

City staff has been aware for some time that the physical condition of City Hall was deteriorating and would require major renovation in order to comply with current codes for mechanical, electrical, plumbing, fire safety, seismic upgrading and handicapped access requirements. The City Council created an Ad-Hoc Council City Building Space Planning Committee to review the existing condition of City Hall and how to house present and future City staff that will not fit into the existing City Hall.

In April 1994, the City Council adopted the Ad-Hoc Council City Building Space Planning Committee recommendations that the City: (1) expend the money necessary from the 1994-95 budget to obtain engineering services to provide studies and cost estimates for any needed modifications and repairs to structural, electrical, and plumbing systems in the City Hall building; (2) proceed with the relocation of the Personnel and Parks & Recreation Departments into the Annex Building and relocation of Economic Development and some Finance Department and Public Works staff into space vacated by the above departments; and (3) proceed with the installation of the carpets and painting necessary prior to the movement of departments.

On July 11, 1994, by Resolution No. 94-0320, the City Council authorized the issuance of
Request for Proposals for professional services of engineers for the following studies of City Hall:

1. Plumbing System
2. Electrical System
3. Earthquake Study

On October 3, 1994, by Resolution No. 94-0447, the City Council authorized City Manager to execute an agreement with Cole/Yee/Schubert & Associates Structural Engineers for engineering services for an earthquake study of the Stockton City Hall Building. Also, separate purchase orders for the studies of the electrical system and the plumbing system were issued to HCS Engineering, Inc. and Alexander Scheflo and Associates, Inc.

The studies completed by the consultants further confirmed staff's observation concerning the deteriorated conditions of the City Hall building as reported earlier to the Ad-Hoc Council City Building Space Planning Committee. The following is a brief summary of the findings of the three studies (for more detailed information refer to the Appendix noted by each study):

4.A. Plumbing System (Refer to Appendix A):

The study of the plumbing system indicates that:

1. The system, in general, does not comply with the existing plumbing code.
2. The waste lines were found to be deteriorated and the wall thickness eroded due to corrosion by as much as 60%.
3. The supporting system is overloaded. In some instances, the hanging wires were rusted through or cut for access.
4. Handicap facilities are not adequate.
5. Available existing plumbing fixtures are not meeting the code requirements.
6. There is no overhead fire sprinkler system as required by fire code.

The consultant estimates that the remaining service life of the building's plumbing system is about five to ten years without major repair/replacement.

The estimated cost for a complete replacement, including the installation of a new fire sprinkler system, of the building's plumbing system is about $600,000.
4.B. Electrical System (Refer to Appendix B):

The analysis for the electrical system indicates that:

1. The building’s power supply panels and switching system is running out of space for expansion and the grounding system is not adequate.

2. The distribution system does not meet today’s code, some circuits are overloaded, and some panels do not have enough circuit breaker space for expansion.

3. The wiring system is obsolete, the original cloth covered rubber insulated wire still exists and is way past its rated life, and it is a potential safety hazard.

4. The lighting systems are inefficient and some areas do not have adequate lighting, also, some of the replacement parts are no longer available.

5. Office outlets through out the building are not adequate to handle the modern electrical equipment demands.

In order to bring the existing City Hall electrical system in compliance with electrical code and to eliminate potential safety hazards, a complete reconstruction of the existing system will be required. The estimated cost for this work is $986,000.

4.C. Earthquake Study (Refer to Appendix C):

The analysis for earthquake forces revealed deficiencies in the building’s unreinforced brick masonry infill walls and the reinforced concrete walls. The building’s non-ductile concrete moment frames do not have the capacity to resist the calculated seismic force specified by various building codes.

Three preliminary retrofit schemes for the mitigation of the seismic-force-resisting system deficiencies proposed by the consultant are shown in Table 1 - Possible Retrofit Schemes for Earthquake Mitigation, on page 5.

The above studies (electrical, plumbing and earthquake) and cost estimates are based on the assumption that during the construction period all City Hall offices will be temporarily relocated. City staff has updated the preliminary cost estimate for heating, ventilating, and air conditioning (HVAC), window repairs, fire escape, fire corridors, ADA modifications, exterior painting and repairs, second floor restroom/exit corridors remodel, carpeting, interior painting, also by adding the above estimated costs for electrical plumbing and seismic repairs and some HVAC equipment replacement cost for the renovation of City Hall. This estimated cost is about $8.5 million.
### Table 1 - POSSIBLE RETROFIT SCHEMES FOR EARTHQUAKE MITIGATION

<table>
<thead>
<tr>
<th>SCHEME</th>
<th>COST</th>
<th>EARTHQUAKE PERFORMANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Concrete Shear Walls</td>
<td>$2,082,000</td>
<td>Satisfactory life safety, heavy non-structural damage, repair extremely costly, building closed for months.</td>
</tr>
<tr>
<td>II. Passive Energy Dissipation</td>
<td>$2,259,000</td>
<td>Good life safety, light to moderate non-structural damage, repair reasonable, building closed for weeks</td>
</tr>
<tr>
<td>III. Base Isolation</td>
<td>$2,685,000*</td>
<td>Excellent life safety, zero to light non-structural damage, repair cost small, building closed for days.</td>
</tr>
</tbody>
</table>

* Cost for the replacement of the basement partitions, after the installation of base isolation device, are not included in this estimate.

The electrical, plumbing and earthquake studies confirmed what staff had previously reported to the Ad-Hoc Council City Building Space Planning Committee. The following is a brief summary of that report:

1. The City has been responding to immediate space needs without any consideration for long term planning.

2. The City Hall building will have to undergo major construction in order to correct the current deficiencies, safety issues, and ADA requirements.

3. City Hall offices will be temporarily relocated for the renovation work.

4. Rearrangement of space will be much less expensive if undertaken at the same time as the major renovation is taking place.

5. **CITY HALL - RENOVATION AND SPACE PLANNING:**

The above studies showed that City Hall will require major renovation work in the very near future. The cost of that renovation work is estimated at $8.5 million. The renovation of City Hall will not solve how the City will house existing and future staff that will not fit into a renovated City Hall. In addition to staff located in City Hall, a number of existing City staff are housed in the following locations (refer to Table 2: City Hall Center - Space and Personnel, on page 6):

- City Hall Annex: A one-story building, directly south of City Hall, occupied by the Parks and Recreation Department, Personnel Department and City Auditor.
<table>
<thead>
<tr>
<th>Location</th>
<th>Space</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement</td>
<td>10,478 sq. ft.</td>
<td>(usable office space)</td>
</tr>
<tr>
<td>Finance Dept.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duplicating</td>
<td>2,736 sq. ft.</td>
<td>2 employees</td>
</tr>
<tr>
<td>Risk Management</td>
<td>768 sq. ft.</td>
<td>2 employees</td>
</tr>
<tr>
<td>Purchasing</td>
<td>1,116 sq. ft.</td>
<td>5 employees</td>
</tr>
<tr>
<td>Admin., Payroll, Acct.</td>
<td>2,865 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>Management Info. Services</td>
<td>2,993 sq. ft.</td>
<td>19 employees</td>
</tr>
<tr>
<td>First Floor</td>
<td>11,984 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>City Clerk</td>
<td>2,941 sq. ft.</td>
<td>10 employees</td>
</tr>
<tr>
<td>Fire</td>
<td>3,213 sq. ft.</td>
<td>19 employees</td>
</tr>
<tr>
<td>Finance</td>
<td>5,850 sq. ft.</td>
<td>38 employees (some to move to basement)</td>
</tr>
<tr>
<td>Second Floor</td>
<td>12,065 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>City Attorney</td>
<td>5,607 sq. ft.</td>
<td>17 employees</td>
</tr>
<tr>
<td>City Manager</td>
<td>4,060 sq. ft.</td>
<td>15 employees</td>
</tr>
<tr>
<td>Council</td>
<td>2,538 sq. ft.</td>
<td>7 members</td>
</tr>
<tr>
<td>Third Floor</td>
<td>14,363 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>Public Works</td>
<td>12,323 sq. ft.</td>
<td>67 employees</td>
</tr>
<tr>
<td>City Manager</td>
<td>2,040 sq. ft.</td>
<td>5 employees</td>
</tr>
<tr>
<td>Annex</td>
<td>11,191 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>Parks &amp; Recreation</td>
<td>±6,586 sq. ft.</td>
<td>18 employees</td>
</tr>
<tr>
<td>Auditor</td>
<td>±508 sq. ft.</td>
<td>4 employees</td>
</tr>
<tr>
<td>Personnel</td>
<td>±4,097 sq. ft.</td>
<td>18 employees</td>
</tr>
<tr>
<td>Permit Center</td>
<td>±12,365 sq. ft.</td>
<td>64 employees</td>
</tr>
<tr>
<td>Training Center</td>
<td>±6,624 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>Code Enforcement</td>
<td>±1,238 sq. ft.</td>
<td>9 employees</td>
</tr>
<tr>
<td>City Manager</td>
<td>±256 sq. ft.</td>
<td>1 employee</td>
</tr>
<tr>
<td>Training and Meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd floor</td>
<td>±2,919 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>1st floor</td>
<td>±2,211 sq. ft.</td>
<td></td>
</tr>
</tbody>
</table>
• Permit Center: A one-story building that currently houses the Community Development Department including Plan Checking and Permit Divisions.

• Wells Fargo Building: The City leases the second floor of the Wells Fargo Building for the Accounting Division of Finance and the Housing & Redevelopment Department staff.

• Training Center: A small, two-story building at the corner of Hunter and Miner Avenue is utilized as a training center. The Training Center also houses the Code Enforcement section of the Community Development Department. The City's Parking District currently owns the building and a larger site on which it is located.

In December 1994, given the existing condition of City Hall, the above scattered facilities used to house City staff, and the projected population growth for the City, the Ad-Hoc Council City Building Space Planning Committee reviewed: (1) the above consultants reports on the condition of City Hall; and (2) An RFP for Architectural Services for the renovation of City Hall and space planning for existing and future City staff. The Committee recommended that the City Council adopt a resolution authorizing the issuance of a Request for Proposal (RFP) for consulting services for a multi-phase City Hall Center Project. On December 19, 1994, the City Council adopted a resolution authorizing the issuance of the RFP for the City Hall Center Project.

5.A. RFP - City Hall Center Project:

The RFP approved by the City Council on December 19, 1994, was for the development of the City Hall Center Project (Project) in three Phases. At the end of each phase the City will assess the consulting services needed and will reserve the option to continue the services for the subsequent phase of the Project with the current architectural firm or to terminate the services of this firm. In the event that the City decided to continue the services of the subsequent phase with the current firm, a contract amendment for the contracted services will be negotiated prior to the beginning of that particular phase.

Selection of an architectural firm for Phase I or any subsequent phase does not imply either directly or indirectly that the City is obligated to continue the contract beyond the existing phase of the Project.

The RFP is only for Phase I of the City Hall Center Project; Architectural needs assessment and programming, and schematic design and design development of the City Hall Center Project. The following material describes the three Phases as stated in the RFP:

5.A.1 Phase I - RFP Scope of Services:

Provide space planning for all City Departments (except Police, Library, and Municipal Utility) presently located at the existing City Hall Center and provide the space planning of a new Training Center. Develop the Project in three “Growth Projection Stages”: short term growth (5 to 10 years), medium term growth (10 to 20 years), and long term growth (20 to 30 years).
Major Tasks

1. Perform "Departmental Function and Site Location Relationship Study." This task shall include but not be limited to:

   Data Gathering/Surveying -- understanding the functions of each department, the basic functional relationships within the department, each department's growth strategy, and needs.

   Interaction Process -- Investigate all crucial functional links between city departments.

   Public Convenience -- Investigate public services provided by each department and develop flow/traffic patterns in order to provide easy public access.

   Safety -- Consider the safety of the public and city employees.

2. Growth Projections: Detailed information sought for both departmental and citywide needs shall include: number of employees, their positions, office/work station sizes, conference room areas, reception areas, counters, file rooms, computer rooms/areas, printing and copying areas, storage areas, recycling material storage areas, break rooms, utility/equipment rooms, lobbies and public areas, information center, security check area, drive-up areas, public and employee restrooms, ADA required refuge areas, number of public and employee parking spaces needed, and other specific areas required for different departments. Convert this information to square footage needs for the short term, medium term, and long term growth for the Project.

3. Provide Preliminary Space Layout Plans (schematic designs): Develop departmental and citywide preliminary space layout plans, including calculated square footage in tabulated form for the estimated short term, medium term, and long term space needs.

4. Staging Plans: Prepare detailed Staging Plans with alternatives, including cost estimates and time tables, for the different "Growth Projection Stages." These plans shall cover in detail all renovation/repair work of existing buildings. Interim use of buildings, transitional layouts of buildings, proposed new building(s), and the major steps which will eventually be integrated into the final Project Plan.

Other considerations

a. Renovation of the City Hall Building: City Hall Building is a State of California designated historical landmark. All renovation work proposed must be approved by the City's Cultural Heritage Board. A Historic structures report should be developed. It should identify the historic significance of different City Hall elements and possible preservation uses. The desired level of historic restoration shall be recommended to the City.
The City has recently entered into three separate contracts with consulting firms for the studies of the City Hall Building. An earthquake study by Cole/Yee/Schubert of Sacramento, an electrical system study by HCS Engineering of Stockton, and a plumbing system study by Alexander Scheflo and Associates of Stockton. These study reports, including cost estimates for the proposed repairs, are available in the Public Works office for your review.

Also a copy of the City Hall Building’s fire wall separation schematic drawing is available in the Public Works office for your review. This concept is approved by the City Fire Marshal and the City Building Official.

b. City Council Chamber: The existing City Council Chamber located on the second floor of the City Hall Building is stressed for space. The existing Council Chambers are not designed to accommodate TV cameras and audio visuals. The planning for a new City Council Chamber shall be included as a part of the PHASE I work.

c. New Building(s): New building(s) planned to accommodate the space needs should be compatible with the architectural theme of the City Hall Building.

d. Landscaping Spaces and Open Areas: Landscaping spaces and open areas must be planned for the entire Project.

e. ADA Requirements: Space planning for the Project must satisfy ADA requirements.

f. Public art should be considered. Therefore, an artist should be included as a team member.

g. Include in the proposal any other task(s) which you think is necessary and is not included in the RFP.

5. Progress Reports and Meetings - The Architect/Project Manager shall provide agenda and minutes for scheduled progress reports and attend ARC meetings. The ARC meetings shall be used to describe progress and make decisions.

As a minimum, ten (10) meetings, including meetings with Council Committee and the City Council, will be held during the design, development and completion of the project.

6. Cost Estimates - (1) provide detailed cost estimate for consultant services for the completion of Phase II work; (2) provide preliminary cost estimate for the construction of the Project.

5.A.2 Phase II - RFP Scope of Services:

The RFP for Phase II of the City Hall Center Project would include the preparation of
construction documents for new building(s) and the modification of existing buildings and grounds, including City Hall Building. The proposed scope of service for Phase II would include, but not be limited to the following items:

1. Based on the final schematic design and the growth projections, develop preliminary floor plans for the entire Project.

2. Develop architectural themes, exterior framing and finish system for new building(s), for Architectural Review Committee’s (ARC) review and approval.

3. Develop HVAC system (conceptual) and lighting system including energy saving and cost analysis.

4. Develop site plans, off-site improvement plans, final floor plans, exterior elevations for new building(s) proposed, color schemes, and landscaping plans for the entire Project.

5. Develop structural seismic plans and specifications for renovation work.

6. Develop plans for the historic restoration of existing City Hall to the level determined as appropriate in Phase I.

7. Final design drawings and specifications.

8. Provide construction cost estimates for the entire Project.

5.A.3 Phase III - RFP Scope of Services:

The RFP for Phase III of the City Hall Center Project would include architectural assistance in bidding and architectural oversight of the construction Project (Construction administration would be handled by an outside firm.)

5.B Selection of Architectural Consultant - City Hall Center Project:

On December 19, 1994, the City Council (Resolution 94-0623) authorized the issuance of the Request for Proposal (RFP) for consulting services for a multi-phase City Hall Center Project, and the Committee Chair designate a member of the Ad-Hoc Council City Building Space Planning Committee to serve on the Consultant Selection Committee along with representatives from the City Manager’s Office, Public Works Department, Fire Department, and Community Development.

After reviewing a “Statement of Qualifications” from a number of architectural firms, the City mailed out an RFP to the following five firms:
VBN Architects, Oakland, CA and the architectural firm of Itaya-Espalin & Associates, Stockton, CA

LPA, Inc. (Architects), Sacramento, CA and the architectural firm of Derivi/Castellanos Architects, Stockton, CA

Albert C. Martin & Associates (Architects), Los Angeles, CA and the architectural firm of Lesovsky • Donaldson Architects, Stockton, CA

EKONA Architecture - Planning, San Francisco, CA and the architectural firm of Edward Charles Merlo Architect, Stockton, CA

Langdon Wilson Architecture Planning Interiors, Newport Beach, CA and the architectural firm of Warren C.T. Wong & Associates, Stockton, CA

The above firms submitted proposals to the City on July 23, 1995. The Consultant Selection Committee interviewed the five firms on August 1, 1995 and selected Albert C. Martin & Associates (ACMA) as its number one choice for Phase I of the City Hall Center Project.

City staff has been evaluating the scope of services (attached as Appendix D) submitted by ACMA. Before the scope of services for the project are finalized, it is recommended that the City Council look at some other city hall projects to help the Council determine what they would like to see in the City Hall Center Project. After the Council members have seen some other city hall projects, staff would like to have the Council go back and look at the scope of services (Appendix D) and make sure that it covers everything that the Council would like to see in the project.

Once the City Council has had an opportunity to look at some other city halls and comment on the scope of services for Phase I of the project, staff will finalize the scope of services and submit same to the Ad-Hoc Council City Building Space Planning Committee for their review and recommendations to the City Council.

6. CITY HALL CENTER PROJECT - ESTIMATED COST:

An estimate for the total cost of the City Hall Center Project will not be known until after the consultant has completed Phase I of the project. Phase I includes determining what needs to be done to renovate City Hall, space planning for existing and future staff, how the project should be staged, and a preliminary cost estimate for the City Hall Center Project. It is estimated that the cost for completing Phase I will be about $300,000.

The estimated cost for the renovation of the existing City Hall building is approximately $8.5 million. Table 3 - City Hall Projects Cost Estimate Update - 12/14/94, on page 12, provides a breakdown of the renovation costs.

As noted above, the City hired three engineering firms to review the electrical and plumbing systems of City Hall, as well as conduct an earthquake study. The following brief summary of the three studies helps to explain the cost.
Table 3 - CITY HALL PROJECTS COST ESTIMATE UPDATE - 12/14/94

1. NEW ROOF: ($100,000 IN 1993-94 CIP)

2. HVAC ($395,000 IN 1993-94 CIP)
   a. Second & third floor HVAC ........................................ $ 255,000
   b. Boiler Rm. (per Scheflo 11/29/94 letter) .................. $ 284,000

3. ROOF DRAIN & ROOF TILE - included in item #1...

4. FIRE SPRINKLERS (revised per Scheflo study) ................ $ 233,000
   booster ................................................................. $ 50,000

5. WINDOW REPAIRS .................................................. $ 421,000

6. FIRE CODE/FIRE ESCAPE/FIRE CORRIDOR ...................... $ 162,000

7. EXTERIOR PAINTINGS & REPAIRS ................................. $ 365,000

8. SECOND FL. REST ROOMS ........................................... $ 400,000
   (add 2 new restrooms on second floor (Scheflo study)

9. SEISMIC WORK ....................................................... $ 2,700,000*
   (Cole/Yee/Shubert Study - base isolation)

10. ELECTRICAL SYSTEM REPLACEMENT ............................ $ 1,000,000
    (HCS Engineering Study)

11. PLUMBING SYSTEM REPLACEMENT ............................... $ 332,000
    UPPER CEILING DEMO & REPLACEMENT ......................... $ 400,000

12. CARPET ............................................................. $ 216,000

13. INTERIOR PAINTING & RELATED ARCH. WORK .................. $ 1,000,000

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<table>
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<tbody>
<tr>
<td>SUBTOTAL</td>
<td>$ 7,439,000</td>
</tr>
<tr>
<td>15% ARCHITECTURAL/ENGINEERING CONTRACT ADMINISTRATION</td>
<td>$ 717,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$ 8,456,000</td>
</tr>
</tbody>
</table>

* 15% CONTINGENCY INCLUDED
6.A. Electrical Improvements - Existing City Hall:

The electrical analysis, conducted by HCS Engineering, indicates:

- The building’s switchboard capacity is 50% utilized and is running out of space for future expansion.
- The distribution system does not meet today’s codes and some of the circuits are overloaded.
- \textit{The wiring system is a major safety hazard.}
- The lighting system is very inefficient and some of the replacement parts are no longer available.
- There are an insufficient number of outlets to handle today’s electrical equipment, computers, etc.

In order to bring the existing electrical system in compliance with the Electrical Code and eliminate potential hazards, a complete reconstruction of the existing system will be required. Based on the assumption that City Hall would be evacuated while the work is being done, the cost is estimated at approximately $1 million.

6.B. Plumbing Improvements - Existing City Hall:

The plumbing system study conducted by Alexander Scheflo & Associates, indicates:

- The plumbing system, in general, does not comply with the existing Plumbing Code.
- The waste lines are badly deteriorated and the consultant estimated that \textit{in another 5 to 10 years, major repairs/replacements will have to be made.}
- There are no handicap restroom facilities available except in the basement.
- The number of plumbing fixtures available are insufficient to meet the existing Plumbing Code.
- There is no overhead fire sprinkler system as required by the Fire Code.

The cost for a complete replacement, including the installation of a fire sprinkler system, is about $600,000. The $600,000 estimate is based on the assumption that City Hall would be evacuated during the reconstruction work.

6.C. Seismic Improvements - Existing City Hall:

The earthquake study, conducted by Cole/Yee/Shubert & Associates, indicates:
The earthquake study revealed deficiencies in the building's unreinforced brick masonry walls and the reinforced concrete walls. City Hall's rigid, concrete frame cannot resist the calculated seismic force specified by various building codes. In order to resolve this problem, the consultant provided three retrofit schemes:

1. **Concrete Shear Walls**, estimated cost of $2.1 million: The concrete shear wall system would replace some of the unreinforced masonry brick in-fill panels with reinforced concrete panels. The concrete shear wall approach could save lives and the structure, there could be heavy non-structural damage and the repair work is extremely expensive.

2. **Passive Energy Dissipation**, estimated cost of $2,259,000: The passive energy dissipation system acts much like the shock absorbers in a car. When an earthquake hits, the impact is actually reduced before it can do damage to the building. This concept is the medium range and would cost an estimated $2.25 million. The advantages to this approach is that it will save lives, only light to moderate nonstructural damage would occur, the repair cost would be substantially less and the building may only be closed for weeks instead of months for repairs as with the Concrete Shear Wall approach.

3. **Base Isolation**, estimated at $2,685,000: The base isolation system involves excavating under each column and installing a damping device (a rubber bearing made of steel and rubber laminated together) between the column and the footing. When the earthquake hits and the earth moves, the shock to the building would be very minimal. This is the best approach for saving lives and zero to light nonstructural damage.

The above cost estimates for correcting the earthquake deficiencies are based on the assumption that during the construction period, all City Hall offices will be temporarily relocated. Appendix C provides a description of concrete shear walls (page C-5), passive energy dissipation (page C-6) and base isolation (page C-7).

**If the building has not been damaged by previous earthquakes, why fix it?** Mr. Gregg Haskell, Cole/Yee/Schubert & Associates, states that one of the reasons why City Hall has done so well in the past is due to its brick in-fill panels. For small events and distant events, the old brick panels perform well. However, the brick walls would become overloaded and break if a more sizeable earthquake were to take place. The next line of defense is the concrete frame and if the walls are gone, the concrete frame is not sufficient to keep the building from having severe problems, such as the possibility of partial collapse or, in the worse case scenario, total collapse. The earthquake study was based on the Uniform Conservation Building Code (UCBC) which is slightly less stringent than the Uniform Building Code (UBC).

The estimated cost for the renovation of City Hall is $8.5 million (Table 3, page 12). This includes $2.7 million for seismic work. The City's choice is essentially do you spend $6 million or $8.5 million. If the decision is made to spend $6 million and the earthquake
safety provisions are not included, the possibility is there that the City may lose the $6 million investment. There have been predictions that there will be an 8 point earthquake in the Bay Area within the next 30 years.
APPENDIX A

City Hall Plumbing Study
on
Existing Conditions
APPENDIX A

PLUMBING AND FIRE SPRINKLER EVALUATION
FOR
STOCKTON CITY HALL

The Stockton City Hall building was reviewed for plumbing system condition, code compliance, and adequacy to service the needs of the City in the future. The latest drawings of the building were used for reference, and some photographs from a report obtained from a local plumbing contractor were reviewed indicating existing conditions. Pipe sections were removed and tested for strength and wall thickness. The plumbing fixtures were reviewed for condition and expected life. A visual inspection was made of the plumbing chases and ceiling area plumbing lines and the information included in this report.

EXISTING CONDITIONS

The plumbing fixtures in the building are old and in need of replacement. All of the restroom fixtures are stained, chipped, and worn out. In a number of locations the fixtures are obsolete and do not meet today's code requirements.

The six (6) inch diameter plumbing waste enters the building on the north side. The piping is cast iron pipe with lead and oakum joints. The waste lines serving the upper floors were checked and sections were removed in five (5) locations. They were found to be deteriorated and the wall thickness eroded due to corrosion by 60%, from .35" thick to .159" thick, (See Photos and Test Results). The remaining service life of the building’s plumbing system is five (5) years without major repair. The waste lines were visually inspected and there appears to be a number of locations that have leaking joints and are cracked. The waste and water lines routed above the ceiling and vertical risers in a number of locations are not supported, and if they are supported it is with wire or plumbers tape. (See comments on the Photos.) The six (6) inch diameter waste system enters the building from the north side of the building below the main entry. The sewer line comes directly in without a cleanout in the line from the building to the street main. The length of the line is over one-hundred (100) lineal feet which makes it difficult to unblock the line in the event it becomes plugged.

The City Hall building was modified twenty (20) years ago and a second ceiling was installed below the original dropped ceiling. Both ceilings are supported from wires hung from the upper concrete deck. In our investigation of the areas above the ceiling it was noted that

1 The material in Appendix A was copied from the report “Stockton, City Hall Plumbing and Fire Sprinkler Evaluation for Stockton City Hall”, prepared by Alexander Scheflo & Associates, Inc. A copy of the entire report is on file in the City of Stockton Department of Public Works.

A-1
a number of the support wires were rusted through or cut for access. The ceiling area support system is over-loaded and over-stressed in a number of locations, and consideration should be give to its reinforcement or replacement.

The water service to the building is supplied by Cal Water. The line comes in at the north entrance of the building at ground level. The water service is 2-1/2" galvanized pipe with a meter outside the north mechanical room. The water line was inspected and found to be in bad shape. There was a number of connecting lines to the main line that were installed without vacuum breakers or protection allowing contamination of the water service (This condition can occur if the Fire Dept. were to put a pumper on a outside hydrant to fight a fire in the local area and pulls a negative pressure on the main.)

The hot water for the building is provided through small electric hot water units in the janitor rooms; in some cases they are improperly installed without shutoff valves and relief valves piped to drains.

The City Hall is not provided with fire protection on any of the floors. Each floor should be provide with a complete overhead sprinkler system sized for light hazard occupancy to meet occupancy and building construction requirements.

The gas service is supplied through a gas meter on the north side outside the mechanical room. The service is low pressure and presently supplies the two steam boilers. The line size is adequate to provide the required heat to the building.

RECOMMENDATIONS

The plumbing system should be expanded to meet handicap requirements and the needs of the occupants of the building. The existing restrooms are too confined and small to allow expansion and meet building needs and handicap upgrade. The recommendation would be to provide a public restroom on the 1st, 2nd, and 3rd floors in place of the existing (See Typical Layout). The restroom should also be equipped for handicap needs. The staff needs can be provided by a second set of restrooms in the office area. For the 2nd floor, 3rd floor, and the lower restroom in the basement could be expanded to serve the basement and first floor needs. This would allow better employee use and overall efficiency. If the City were to go this route all the existing plumbing lines should be removed and a vertical concealed riser system established with all restrooms stacked above each other from the basement to the third floor. The vacated elevator shaft on the west side of the building or the light well area east of the existing restrooms would be a logical area.

The hot water for the restrooms should include a central gas fired water heater in the basement and penthouse equipment room. The system should include high efficiency heaters with circulation pumps to assure warm water throughout the hot water loop.

The replacement plumbing system should include high quality fixtures equal to American
Standard commercial type and standard weight no/hub cast iron waste. The water lines should be Type 'L' copper water lines above grade, Type 'K' below grade and Schedule 80 PVC outside the building. The piping should be supported with hanger rods spaced per code and anchored into the upper concrete deck. All the vertical and horizontal piping would be concealed in a furred vertical chase or above the new ceiling. The estimated cost for plumbing and room remodel would be approximately $431,250.00. There would be approximately $100,000 savings if the work was done during building upgrade and ceiling removal bringing the total down to $331,250.00.

The ceiling system should be reviewed and some reinforcement made to the support system or a complete removal. The removal and replacement with a new dropped ceiling would be preferable, this would allow ample space for air conditioning ducts, plumbing piping, electrical wiring, and new lighting system.

The building should be provide with a fire sprinkler system sized for light hazard occupancy. The system should include sprinkler heads above and below the ceilings, in stairwells, storage rooms, equipment rooms, and any large chase. The system should be designed and installed per NFPA Title 13. The water for the sprinkler system should include a new fire service from the street main, sized in accordance with building needs. The cost for a fire sprinkler system would be approximately $188,378 if it were installed with all the existing ceilings removed, and approximately $232,861 if the contractor had to work above the existing ceiling.
COST ESTIMATE
for
STOCKTON CITY HALL
FIRE SPRINKLER

Sized for Light Hazard and Open Access to Ceiling

<table>
<thead>
<tr>
<th>Area</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement 16,724 ft² x 2.55</td>
<td>$42,646.00</td>
</tr>
<tr>
<td>1st Floor 14,770 ft² x 2.55</td>
<td>$37,663.00</td>
</tr>
<tr>
<td>2nd Floor 15,100 ft² x 2.55</td>
<td>$38,505.00</td>
</tr>
<tr>
<td>3rd Floor 16,950 ft² x 2.55</td>
<td>$43,222.00</td>
</tr>
<tr>
<td>Pent House/Storage 1,450 ft² x 2.05</td>
<td>$2,972.00</td>
</tr>
<tr>
<td>Fire Riser &amp; Shut Off Valve</td>
<td>$9,500.00</td>
</tr>
<tr>
<td>6&quot; Dia. Fire Water Service 165 ft. and shut-off valve x $85.00/ft.</td>
<td>$13,870.00</td>
</tr>
</tbody>
</table>

Fire Sprinkler Cost with Open Access to Ceiling = $188,378.00

Sized for Light Hazard with Existing Ceiling System

<table>
<thead>
<tr>
<th>Area</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement 16,724 ft² x 3.25</td>
<td>$54,353.00</td>
</tr>
<tr>
<td>1st Floor 14,770 ft² x 3.25</td>
<td>$48,003.00</td>
</tr>
<tr>
<td>2nd Floor 25,100 ft² x 3.25</td>
<td>$49,075.00</td>
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<tr>
<td>3rd Floor 16,950 ft² x 3.25</td>
<td>$55,087.00</td>
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<tr>
<td>Pent House/Storage 1,450 ft² x 2.05</td>
<td>$2,973.00</td>
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<tr>
<td>Fire Riser &amp; Shut Off Valve</td>
<td>$9,500.00</td>
</tr>
<tr>
<td>6&quot; Dia. Fire Water Service 165 ft. and shut-off valve x $85.00/ft.</td>
<td>$13,870.00</td>
</tr>
</tbody>
</table>

Fire Sprinkler Cost with Existing Ceiling in Place = $232,861.00
STOCKTON CITY HALL

Test Results
of
Plumbing Lines

*Test Method:* Sections of pipe were removed from the existing building sewer systems. Short sections were cut-off and the pipe thickness was measured with a micrometer.

Sample #1 4" dia. cast iron waste taken from the basement above the south hall.

Sample #2 4" dia. cast iron waste taken from above the basement ceiling outside the mechanical room.

Sample #3 4" dia. cast iron waste taken out of the pipe chase in the basement mens restroom.

Sample #4 2" dia. galvanized waste taken out of the basement ceiling in the east part of the building.

Sample #5 2" dia. galvanized vent taken out of the ceiling outside the basement mens restroom.

*Note: Photographs of Samples #1, #2, & #3 are shown in Exhibit 1, page A-6.*

<table>
<thead>
<tr>
<th>Test Results of Plumbing Lines</th>
<th>Required Thickness</th>
<th>Maximum Test Thickness</th>
<th>Minimum Test Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample #1 (4&quot; dia. cast iron waste)</td>
<td>.32 in.</td>
<td>0.209</td>
<td>0.119</td>
</tr>
<tr>
<td>Sample #2 (4&quot; dia. cast iron waste)</td>
<td>.32 in.</td>
<td>0.224</td>
<td>0.13</td>
</tr>
<tr>
<td>Sample #3 (4&quot; dia. cast iron waste)</td>
<td>.32 in.</td>
<td>0.219</td>
<td>0.129</td>
</tr>
<tr>
<td>Sample #4 (2&quot; dia. galvanized iron waste)</td>
<td>.32 in.</td>
<td>0.165</td>
<td>0.139</td>
</tr>
<tr>
<td>Sample #5 (2&quot; dia. galvanized iron vent)</td>
<td>.32 in.</td>
<td>0.146</td>
<td>0.134</td>
</tr>
</tbody>
</table>
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TYPICAL FIXTURE CONDITION
City Hall
(Index to Pictures)

Third Floor - Public Works

1. SLOP SINK S-TRAP NOT LEGAL.
20. DRINKING FOUNTAIN LOBBY - DRAIN IS ILLEGAL. OUTLET ON DRINKING FOUNTAIN LOWER THAN WASTE INLET.

Second Floor - Eastside

3. 1/2" DIA. COLD WATER REQUIRES HANGER SUPPORT.
4. WATER HEATER IS IMPROPERLY CONNECTED, NO SHUT-OFF IN SAME ROOM.
5. 4" GOING SOUTH TO UNACCESSIBLE AREA WITH WIRE SUPPORT.
6. ASBESTOS PIPE WRAP.
7. COPPER INTO GALVANIZED PIPE ON SAME CONDENSATE LINE.

Second Floor - Ceiling West

8. BRACKETS DISCONNECT FROM REFER LINES.
9. CONDENSATE PUMP SITTING ON CEILING TILES CAUSING DAMP CONDITION.
10. 2" WASTE, 1-1/2" VENT, 1/2" COLD WATER NEED HANGERS.
11. 2" VENT FROM 2ND FLOOR TOILET, NO HANGER.
12. OPEN DRAIN JANITORS ROOM.

Second Floor - Mens Toilet Room

13. LEAKY DRAINS, BOTH. ASBESTOS HEATING LINES. DRAINS ARE FOR URINALS
14. NO HANGER ON WASTE LINE, WOOD BLOCK SUPPORT.
15. NO HANGERS ON PIPE.
21. LEAK 3RD FLOOR TOILET.

First Floor - Eastside

16. GALVANIZED LINE 1/2"; NO HANGERS.
17. GALVANIZED LINE 3/4"; NO HANGERS,
18. GALVANIZED LINE HUNG WITH WIRE.
19. NO PIPING ON RELIEF VALVE ON WATER HEATER; FIRE DEPT. UNDER N.E. SINK.
TYPICAL FIXTURE CONDITION - City Hall - (Index to Pictures) (Continued)

22. TOILET WASTE WITH NO SUPPORT.
23. OPEN SEWER LINE.
24. ROOF DRAIN STUB WITHOUT SUPPORT AND GRADED WRONG WAY; IMPROPER HANGER SUPPORT.

First Floor - Westside

25. NO SUPPORT ON WASTE LINE.
26. REPAIR CLAMPS ON WASTE LINE AND RUSTED LINES.
27. LEAD STUB FOR TOILET; SHOULD BE CHANGED CAST IRON.

Basement - North-west Side

28. OPEN WASTE LINE AND 1/2" WATER LINE WITHOUT HANGER.

Basement - South-west Side (Purchasing)

2. DRINKING FOUNTAIN CROWN VENTED.

Basement - Transformer Room

29. BROKEN 3" WASTE LINE.
30. ABANDONED DRUM TRAP AND 1/2" WATER LINE.

Basement - Data Processing

31. ABS FITTING NOT LEGAL; SANTTEE ON ITS BACK AND ASBESTOS.

Basement -

32. GALVANIZED VENT ROTTED OUT.
33. 2-1/2" COLD WATER; NO HANGERS.
APPENDIX B

City Hall Electrical Study on Existing Conditions
CITY HALL

ELECTRICAL STUDY

FOR:

CITY OF STOCKTON
425 EL DORADO STREET
STOCKTON, CALIFORNIA

BY:

HCS ENGINEERING, INC.
4651 QUAIL LAKES DRIVE
STOCKTON, CA 95207

(209) 478-8270

PERFORMED:

NOVEMBER 1994

NOTE: Appendix B contains the first two sections (Introduction and General Discussion) of the City Hall Electrical Study. A copy of the entire report is on file in the City of Stockton Department of Public Works.
INTRODUCTION
1.0 INTRODUCTION

The Stockton City Hall was built in 1923. Since its original construction, City Hall has had numerous electrical remodels. Some of these remodels were done without designed plans and the records or designs for these remodels have been lost. Areas of the building have, in the past, housed different departments including: the police department, the pound, immigration officials, justice courts and the harbor master.

Some of the original departments are still occupying the building including the City Council, the City Manager and the public works department. With the changing usage of the building, some of the electrical systems have been modified to try and maintain the building at current levels.

It is the focus of this study to analyze the existing condition of City Hall and report on the status of the electrical system. This report deals with answer the following questions:

1. What is the existing condition of the electrical systems?
2. What items of the electrical systems need immediate attention and repair?
3. What items need correction to be safe and efficient?
4. What are the estimated costs to perform these repairs?

During our study, we talked with several City employees, Stephen Chen, Public Works, Bill Watson, City Electrician, Mike Healy, Public Works and a few departmental secretaries. During these conversations, a pointed question arose:

5. Why is our computer screen wavy?
All of these issues will be addressed in this report. This report is broken down into three discussion areas of the electrical system: the power system (including the main switchboard and the major distribution panels), the distribution system (small panels, outlets, disconnects and wire) and the lighting system.

The format of this report is (1.0) introduction, (2.0) general discussion where relevant codes are discussed, (3.0) specific discussion where each system is broken down into components and commented upon and (4.0) the conclusion.

1.1 Signal Systems:

The signal systems will not be discussed in depth in this report. The basic signal systems that we would expect to see in a City Hall are:

A. A fire alarm system
B. A telephone System
C. An intercom system
D. A security alarm system.

1.1.1 Fire Alarm System

Fire alarm systems are a complicated and expensive system to upgrade. The City of Stockton Fire Marshal requires the latest Codes to be used in upgrades to buildings. The following items are not installed in City Hall fire alarm system:

An ADA compliant strobe light wherever a person can stand.

An ADA compliant minihorn to provide even audible signals in case of a fire.

An annunciator panel in view on the first floor or outside the building.

The cost to upgrade the fire alarm system is $180,000.

1.1.2 Telephone System

Introduction, Section #1
The City has just installed the third complete new phone system in City Hall. The phone system has junction boxes, controllers, etc. throughout the building. There is a main telephone room that serves the entire building. There is another telephone room with a voice mail computer system that only serves the Finance Department. There is also a telephone computer system that serves the traffic light systems. The latest telephone system appears to be in good condition.

1.1.3 Intercom System

City Hall does not have an entire building intercom system. Public Works has a departmental paging system, but it is the only department.

An intercom system for the entire building would be approximately $60,000.

1.1.4 Security Alarm System

It is assumed that the City Hall has a functioning security alarm system.
1.2 RESULTS

This study was undertaken to ascertain the present condition of the City Hall electrical systems including the electrical power distribution, lighting, telephone, fire alarm and etc. There have been remodels, replacements and modifications of some of the electrical since the original construction in 1923. However, these changes were made mostly to satisfy an immediate problem and have not resulted in present systems meeting the stringent requirements of today's demands with regard to power, communications, computers, security, fire alarm, etc. In order to bring the existing City Hall electrical systems into the present age of technology, major reconstruction of these systems will be required. Please note that any remaining original building electrical material has exceeded its rated life and near future failure of this material is likely. Safety requirements with regard to lighting, circuit protection, fire alarm are more demanding today and this is an area of some concern in City Hall.

This report shows a major electrical reconstruction is needed to allow City Hall to function in today's electrical environment. In order to attain the desired level of electrical modernization, the following electrical reconstruction is recommended:

1. Replace all of the panels and feeders mentioned in this report.
2. Replace all of the branch circuit wiring.
3. Replace the distribution panels DP2 and DP3 in the basement.
4. Replace all of the lights mentioned in this report.
5. Provide and install a Code compliant fire alarm system.
6. Provide and install an intercom system.
7. Provide and install an improved grounding system for power and signal systems.

The estimated cost to perform this work is $1,040,000.

Introduction, Section #1
In addition to the recommended reconstruction above, there are some electrical problems that need correction as soon as can be scheduled. These are safety and maintenance related and should be corrected. These items are as follows:

1. Use of the Finance Department elevator must be evaluated along with control system changes.

2. The passenger elevator relays should be checked.

3. Egress lighting must be enhanced to provide adequate illumination in the event of an emergency.

4. The ground wire in Panel "N" in the penthouse must be terminated or removed.

5. All of the access violations should be resolved with City employees. (i.e. all of the desks and storage cabinets should be relocated to provide the code required clearances.)

6. The splice in Panel "A" in the basement should be replaced.

7. The tree at the south entrance should be resolved.

8. The ground fault relay in the main service switchboard should be tested.

9. All of the aluminum feeder connections need to be tightened.

10. All of the panels need to be cleaned.

11. All of the remaining conductor terminations in the panels should be tightened. All of the abandoned wire should be removed.

12. Make the corrections noted regarding the fused disconnects.

13. Correct the labeling on the panels.

14. Make all of the corrections noted in the discussions to the panels (splices, etc.), including the enclosure for distribution panels DP2 and DP3.

The estimated cost to perform this work is $60,000.
The total estimated electrical reconstruction cost to perform all of this work required in City Hall is $1,100,000.

1.2.1 Computer Screens

Problems with the computer equipment such as power regulation, outages, etc. could, for the most part be resolved with UPS system installations or in coordination with the equipment suppliers. However, the computer wavy picture problem could be caused by a poor ground in the electrical system. With the replacement of the panels, feeders and the introduction of ground buses and ground wires, this problem may be corrected.
1.3 Cost Estimate

To electrically refurbish City Hall, most of the people will have to be temporarily relocated. All of the electrical systems in the building (with the exception of the telephone) will require a demolition and reconstruction phase. The following cost breakdown details the different sections of work to be performed. Note that this cost estimate only covers electrical items. Replacement of the ceiling, wall finishes, and new separation walls are not included in this estimate.

A. ELECTRICAL POWER
   SERVICE AND DISTRIBUTION SWITCHBOARDS $92,400
   OUTLETS, SWITCHES, BOXES, ETC. $160,800
   EQUIPMENT CONNECTIONS (HVAC, ETC.) $34,800
   SUBTOTAL $288,000

B. LIGHTING
   GENERAL LIGHTING $180,000
   EXTERIOR LIGHTING $15,000
   EMERGENCY LIGHTING $37,800
   SUBTOTAL $232,800

C. SIGNAL SYSTEMS
   TELEPHONE $0
   FIRE ALARM $120,000
   INTERCOM/PAGING $28,200
   SECURITY $14,400
   SUBTOTAL $162,600

D. DEMOLITION AND REMOVAL $167,100

E. SALVAGE ($20,052)

F. ENGINEERING $26,736

F. SUMMARY
   POWER SYSTEM $288,000
   LIGHTING SYSTEM $232,800
   SIGNAL SYSTEM $162,600
   ENGINEERING $26,736
   REMOVAL $167,100
   SALVAGE ($20,052)
   SUBTOTAL $857,184
   CONTINGENCY (15%) $128,558
   TOTAL $985,762

Introduction, Section #1
GENERAL DESCRIPTION
2.0 General Discussion

This section of the report deals with the codes and standards by which the electrical system has been judged. The local building departments enforce the construction codes and standards.

Since construction departments have moved in and out of City Hall, areas of the building have been remodeled (sometimes several times). During these remodels, the areas of the building should have been brought to the current codes.

2.1 The Electrical System

The standards for the electrical systems are determined by the following agencies:

The National Electrical Code (requirements)

Underwriters' Laboratories (material quality)

These two agencies' standards have been used to gauge the condition of the electrical system.

POWER SYSTEM

The main service switchboard for the facility has been replaced since the original construction of the building. The new service was designed by H C S Engineering in 1974. The service located in the basement was manufactured by Square D. The switchboard has a trademark "I-Line" distribution system that is still used as a basis for Square D's equipment today. Although the breaker styles have changed (externally), hardware is still available for this switchboard.

City Hall has two distribution panels that are located side by side in the basement boiler room. These panels were most likely part of the original distribution system. Some of the circuit breakers are labeled with loads (and departments) that are no longer connected. The breakers are still in use feeding other equipment.

DISTRIBUTION SYSTEM

There are approximately thirty electrical subpanels in City Hall. It is assumed that, as new departments moved into City Hall, old circuits were partially abandoned. New circuits and new panels were added to feed the new departments. The older
panels are still labeled with the original loads serviced (i.e. there are still circuit breakers feeding the police chief's office in the basement level).

With the advent of personal computers in the offices, plug strips with large power demand are commonplace. The first floor (especially Finance) and the third floor (public works) have numerous computer systems. The panels in these areas may not be overloaded, but individual circuits may have more computers than should be run on one circuit. This did not appear to be a large problem in the basement and the second floor. This study does not attempt to analyze every circuit in the building, but rather the electrical system as a whole.

The building has thirty fused disconnects for air conditioning units. These appeared to be in good working order.

2.2 Lighting System

The standards for the lighting system are set by the following groups:

The Uniform Building Code (exiting and egress lighting)

The Illuminating Engineering Society (lighting levels)

California Title 24 (requirements)

These have been used to gauge the status of the existing lighting installations.

LIGHTING SYSTEM

A majority of the building's lighting is based upon fluorescent light fixtures. These fixtures are old and are inefficient. The new fluorescent lamp sources are available in a variety of shapes, sizes and colors (usually indicated by temperature). Fluorescent ballasts have gone through several changes from transformer based ballasts to the newest complete solid state ballasts.

The lighting in City Hall is a variety of different styles, colors and technologies. Lighting standards today are controlled by two groups in California. The Illumination Engineering Society published standards that engineers use to design proper illumination and the California Energy Commission which dictates the efficiency of the light sources and the light controls (occupancy sensors, daylight controllers, etc.) that must be installed.

General Discussion, Section #2
2.3 Summary

**State of the Main Service Switchboard:**

The existing main service switchboard is located in the basement of City Hall in the boiler room. The switchboard's capacity is 2500 amps at 208 volts, three phase, four wire. The switchboard was replaced in the 1970's. The switchboard that is installed was manufactured by Square D Company and uses proprietary "I-Line" circuit breakers.

The I-Line breaker is still used by Square D. The exterior of the circuit breaker has changed, but the method of attaching to the bus is still the same. Therefore, the hardware in the switchboard is still state of the art and still available. Some manufacturers discontinue circuit breaker and bus designs every few years and "obsolete" their switchboards making it difficult to obtain hardware (thus far, this is not the case with I-Line).

Pacific Gas and Electric's records show for the last twelve months, that the switchboard is 50% utilized. The Switchboard has capacity for some growth. There are several projects, that we know of, that are going to effect these totals. The following projects will be adding load to the main service switchboard:

1. The air conditioning remodel for the second and third floors. This project will add to the service amps.

2. The duplication room remodel. We have heard about this project, but we do not know its scope or its effect on the main service.

The problems with the main service switchboard are:

A. Space: Although the switchboard might have capacity to add equipment and remodel areas of City Hall, the switchboard is rapidly running out of physical space to mount circuit breakers. It is surrounded in the back and one side by the basement wall and on the second side by a boiler. If any remodel work is done, a new distribution section of the main switchboard will need to be added and have some of the existing feeders re-routed to this new distribution section.

B. Labeling: The labels on the main switchboard do not indicate the loads being served by the switchboard. This is a potential hazard. If an electrician goes to work on a circuit, feeder, panel, etc. and the labels are wrong, the electrician could inadvertently work on a circuit that was not turned off.
Also, the electrician could turn off power to the wrong circuit, kill computer equipment in areas of City Hall that are not being worked on.

C. Grounding System: During our visits to City Hall and our conversations with City employees, several had discussed problems with their computer monitors and waves that the screens had. They had indicated that the City had a EMF (Electro-Magnetic Force) Consultant come to the site and take readings and that the EMF readings were high near the old existing panels. This might indicate that the grounding system is not adequate and that the ground bonds are not strong (or available).

Distribution Switchboards "DP1" and "DP2"

There are two distribution switchboards located in the basement boiler room. These switchboards are old and some of the circuit breakers are mismarked. These distribution switchboards appear to be part of the original construction of the building. The problems with these switchboards are:

1. They are past their rated life. Hardware would be hard to find.
2. The labels for the switchboards do not indicate the loads being served. (See discussion above about this problem).

Feeders

There are several aluminum feeder in the building. Aluminum has a tendency to become loose in circuit breakers terminals. All of the aluminum conductor connections should be tightened on an annual basis.

Distribution System: Panel, Disconnects, Outlets and Wire:

There are thirty load centers in City Hall. They range from two circuits to forty-two circuits. Some of the panels are from the original installation and some have recently been installed.

The following is a general list of problems with the panels:

1. Construction: Some of the original panels are still existing. These panels do not meet today's codes. Some of these panels on the first and second floor do not have the original deadfront covers and wooden deadfronts have been fabricated and installed.

General Discussion, Section #2
Deadfronts are part of the Underwriters' Laboratories labeled assemblies. When these were discarded and replaced, the U.L. label was invalidated. The City of Stockton inspectors are very strict about the U.L. labeling of equipment installed within the City.

2. Circuit Breaker Space: Some of the panels did not have enough circuit breaker space and twin circuit breakers have been installed. Twin circuit breakers allow electricians to remove a single circuit breaker and have the equivalent of two circuit breakers in the same physical space. The problem with this is that they can overload or unbalance a panel if the circuit breakers are not installed with care and planning.

3. Labeling: As mentioned before, the panel schedules that do exist may not be correct. The basement panels still list the police department as being fed out of the panel. The police department has not been in City Hall since 1966.

4. Service Areas: When new circuits were added on the first floor, the existing three or four panels did not have space to add breakers; therefore, the circuits were brought from the basement panels. When the building was designed, each half of every floor had a panel for circuits in that area. When the panels became full, new panels were installed and sometimes loads were taken from other panels in other floors. Although this is not a Code violation, it again becomes a safety issue as with labeling of circuits. An electrician has to know both the panel and the floor a circuit is being fed from to be able to kill power to that circuit.

5. Clearance: The National Electrical Code requires 36" clearances in front of a panels, switchboards and disconnects. The Code requires that no water piping and no air ducts are installed within this clearance space. A majority of the panels in the building do not meet this requirement. In Duplicating, one panel has 18" clearance. Some of the panels are located in janitors' closets where cleaning supplies are in the way.

General Discussion, Section #2
Fused Disconnects:

There are approximately thirty fused disconnects located in City Hall. They are primarily for the air conditioning units. A majority of these disconnects (twenty two) are located on the roof and are slated to be removed with the air conditioning remodel designed by Alexander Scheflo & Associates.

Outlets:

With today's computer usage, most engineers design a dedicated circuit with four to six duplex outlets for every two workers. Even with four outlets, plug strips are usually introduced for additional outlets. One City employee in the Finance Department who has a 5' x 5' cubicle has a computer, a monitor, a printer, a typewriter, an adding machine and a small radiant heater. This employee could use one or two circuits by itself, but shares the circuit with another employee.

The original distribution system in the Finance Department was floor penetrations with the conduit run in the above ceiling space of the basement. Since then, the Finance Department has switched over to powered partitions. The partitions have a built-in plug strip. These plug strips are usually connected with a piece of flexible conduit to a piece of standard concealed conduit from the panel.

Problems with the existing outlets are:

1. There are not enough outlets and circuits for all of the equipment that the City employees are using.

2. In the Finance Department, since the installation of the prewired partitions, there have been a few maintenance problems that still exist. There is some exposed wire. There is some broken conduit.

3. Grounding. Some of the City employees complained about wavy lines on their computer monitors. This could be due to harmonics or grounding. The panels should be checked for proper grounding and the outlets can be tested for proper grounding.

4. In the City's attic study that was performed prior to our starting this study, a City consultant noted that the outlet boxes in the attic space were missing covers.
Branch Circuit Wire:

The problems with the branch circuit wiring are:

1. In the City's attic study that was performed prior to our starting this study, a City consultant noted that there was some exposed wire, open junction boxes and illegal connects to equipment (a sump pump).

2. A lot of cloth covered rubber insulated wire still exists on the second and third floors. This wire is way past its rated life and needs to be replaced.

Lighting System

With the exception of Purchasing and Personnel Departments in the basement, a majority of the lighting in City Hall is based on fluorescent fixtures that are several years old. These fixtures need to be replaced. A list of some problems with the lighting system is:

1. Lenses are old and are difficult to match.

2. Fixture doors are loose and are held in place with chains and screws.

3. The fixtures use inefficient ballasts.

4. Several areas do not have adequate lighting.
PHOTOGRAPHS OF EXISTING ELECTRICAL FACILITIES AT CITY HALL

The photographs starting on page B-25 are provided to show a few of the typical problems with the existing electrical facilities at City Hall.

PHOTOGRAPH NUMBER 1: Air Conditioning Unit on the Eastside of City Hall

This is a photograph of the electrical and mechanical connection of an air conditioning unit on the eastside of City Hall. The holes bored through the wall to accommodate the air conditioning unit were not sealed when the unit was installed.

PHOTOGRAPH NUMBER 2: Basement Panel "C" (Outside Personnel Department)

This switchboard is one of the original panels of the building. It has the following demand.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Instantaneous Load In Amps (11/10/94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30</td>
</tr>
<tr>
<td>B</td>
<td>37</td>
</tr>
<tr>
<td>C</td>
<td>16</td>
</tr>
</tbody>
</table>

The following need to be addressed for this panel:

U.L. Listing: The City Inspectors are really tough on requirement that panels installed in the City meet the U.L. Standards and are U.L. labeled. Sometime in the past, the original deadfront of the panel was replaced with a wooden dead front which voided the U.L. label.

Ground Bus: The panel does not have a ground bus. It is assumed that outlets fed from this panel are either using the conduit system for a ground or are using the neutral bus for a ground. The first option is bad because the ground in the distribution panels was not a good

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1 The material listed for Photograph Number 2 was copied from the City Hall Electrical Study, HCS Engineering, November 1994. Copy of the study is on file in the City of Stockton Public Works Department.
The only time a ground and neutral can be tied together is in the main service switchboard.

**Color Coding:** The National Electrical Code has a requirement specifying the color coding of hot and neutral wires. Neutral wires must be white or grey/white. Some of the neutral wires in this panel are black (usually indicating a hot leg). This is a Code violation.

**Labelling:** Some of the circuit breakers in this panel are labeled for the police department that used to be located on this floor. When the areas were remodeled for the new usage, the circuit breaker labels were never replaced. There is no record of which outlets are fed out of this panel. This again is a safety issue.

**Thermoscan:** The Thermoscan of this panel indicated that some of the neutral wires were hot. This means that the terminal connects of these wires needs to be worked upon. The terminals should all be tightened. During our scans, some of the lugs (the worst ones) were tightened, but all of the terminations in the panel should be tightened.

**Replacement:** With all of the problems listed above, this panel should be replaced. The estimated cost to replace the panel and do the work listed above is $4500.

**Cleaning:** The panelboard should be cleaned and have all of the dirt, dust and debris removed from the inside. The estimated cost for cleaning is $75.

**PHOTOGRAPH NUMBER 3: Fused Disconnect for Air Conditioning Unit**

City Hall has thirty fused disconnects for air conditioning units. They appear to be in good working order, however access to this fused disconnect on the southside of City Hall is blocked by a tree. The code requires 36" clearance in front of the fused disconnect. This is a code violation.
PHOTOGRAPH NUMBER 4: Basement Panel "A" (Mens Room Hallway)

This panel is one of the original panels of the building. It has the following demand.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Instantaneous Measured Load In Amps (11/10/94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11</td>
</tr>
<tr>
<td>B</td>
<td>15</td>
</tr>
<tr>
<td>C</td>
<td>16</td>
</tr>
</tbody>
</table>

The following needs to be addressed for this panel:

**U.L. Listing:** The City Inspectors are really tough on requirement that panels installed in the City meet the U.L. Standards and are U.L. labeled. Sometime in the past, the original deadfront of the panel was replaced with a wooden dead front which voided the U.L. label.

**Ground Bus:** The panel does not have a ground bus. It is assumed that outlets fed from this panel are either using the conduit system for a ground or are using the neutral bus for a ground. The first option is bad because the ground in the distribution panels was not a good ground. The second option is a Code violation. The only time a ground and neutral can be tied together is in the main service switchboard.

**Cloth-Covered wire:** Some of the wire in this panel was the original cloth covered wire from the original construction. This wire should be replaced.

**Labelling:** Some of the circuit breakers in this panel are labeled for the police department that used to be located on this floor. When the areas were remodeled for the new usage, the circuit breaker labels were never replaced. There is no record of which outlets are fed out of this panel. This again is a safety issue.

**Thermoscan:** The thermoscan of this panel indicated a bad splice. The branch circuit that this splice is an feeds a GIS Lab in the basement.

**Replacement:** With all of the problems listed above, this panel should be replaced. The estimated cost to replace the panel and do the work listed above is $4500.

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2 The material listed for Photograph Number 4 was copied from the City Hall Electrical Study, HCS Engineering, November 1994. Copy of the study is on file in the City of Stockton Public Works Department.
Cleaning: The panel should be cleaned and have all of the dirt, dust and debris removed from the inside. The estimated cost for cleaning is $75.

PHOTOGRAPH NUMBER 5: First Floor Panel "D" (Janitor's Closet in front of Finance)

This panel is one of the original panels of the building. It has the following demand.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Instantaneous Measured Load In Amps (11/10/94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>40</td>
</tr>
<tr>
<td>B</td>
<td>43</td>
</tr>
<tr>
<td>C</td>
<td>27</td>
</tr>
</tbody>
</table>

The following needs to be addressed for this panel:

U.L. Listing: The City Inspectors are really tough on requirement that panels installed in the City limits meet the U.L. Standards and are U.L. labeled. Sometime in the past, the original deadfront of the panel was replaced with a wooden deadfront which voided the U.L. label.

Ground Bus: The panel does not have a ground bus. It is assumed that outlets feed from this panel are either using the conduit system for a ground or are using the neutral bus for a ground. The first option is bad because the ground in the distribution panels was not a good ground. The second option is a Code violation. The only time a ground and neutral can be tied together is in the main service switchboard.

Cloth-Covered wire: Some of the wire in this panel was the original cloth covered wire from the original construction. This wire should be replaced.

Color Coding: The National Electrical Code allows neutrals to be white or grey. The following colors were installed in this panel for neutrals: white, black (usually denoting hot), green (denoting ground), and yellow. The black, green and yellow conductors are a Code violation.

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3 The material listed for Photograph Number 5 was copied from the City Hall Electrical Study, HCS Engineering, November 1994. Copy of the study is on file in the City of Stockton Public Works Department.
Labeling: There is no record of which outlets are fed out of this panel. This is a safety issue.

Thermoscan: The thermoscan of this panel indicated no immediate problems.

Foreign Objects: There are a few items in the panelboard that are not allowed by today's Code. There is a time clock, a junction box and conduit installed in the panel. These devices are used to control some of the exterior lighting. They should not be located inside of the panelboard.

Replacement: With all of the problems listed above, this panel should be replaced. The estimated cost to replace the panel and do the work listed above is $4500.

Also it is unclear how much cloth covered wire is left installed on this floor. The wire for this building is covered in Section 3 of the Electrical Study.

Cleaning: The panelboard should be cleaned and have all of the dirt, dust and debris removed from the inside. The estimated cost for cleaning is $75.

PHOTOGRAPH NUMBER 6: Wire Laying Directly on Ceiling Panel Supports

Over the years new telephone systems have been installed in City Hall and electrical wiring has been installed to either service new electrical connections or to replace deteriorated wiring. Often the old wiring was not been removed. This photograph shows some of the wiring above the ceiling panels in the basement hallway outside of duplicating.
PHOTOGRAPH NUMBER 7: Basement Panel "MIS1" (in MIS)\(^4\)

This panel was added for the MIS Department. It has the following demand.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Instantaneous Measured Load In Amps (11/10/94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
</tr>
<tr>
<td>C</td>
<td>35</td>
</tr>
</tbody>
</table>

This is the newest panel in the building. It has a ground bus and all of the wire in the panel is neatly laced.

The following need to be addressed for this panel:

**Access:** The National Electrical Code requires a 36 inch clearance in front of a 208 Volt electrical panel (Note file cabinet which blocks the screws to the face of the panel). The City should have the MIS Department rearrange the furniture to provide the required clearance.

**Wireway:** A board has been put in the panel to keep the wire from touching the front of the panel. The wire in the panel should be wire tied and the board should be removed from the panel.

**Thermoscan:** The Thermoscan did not indicate any problems with this panel.

**Corrections:** To make the above mentioned corrections, it should cost the City approximately $250.

**Cleaning:** The panelboard should be cleaned and have all of the dust and debris removed from the inside. The estimated cost for cleaning is $75.

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\(^4\) The material listed for Photograph Number 7 was copied from the City Hall Electrical Study, HCS Engineering, November 1994. Copy of this study is on file in the City of Stockton Public Works Department.
APPENDIX C

City Hall Earthquake Study on Existing Conditions
EARTHQUAKE STUDY
FOR
STOCKTON CITY HALL
STOCKTON, CALIFORNIA
CYS JOB NO. 94148

December 1, 1994

NOTE: Appendix C only contains some of the material contained in the "Earthquake Study for Stockton City Hall, Stockton, California". A copy of the entire report is on file in the City of Stockton Public Works Department.
I. EXECUTIVE SUMMARY

A. PROJECT - GENERAL DESCRIPTION

This building is a three-story structure with a basement and penthouse. The building consists of an essentially complete reinforced concrete frame with unreinforced brick masonry (URM) exterior walls cladded with stone or terra cotta. The approximate plan dimensions are 170 by 102 feet. The vehicle shelter attached to the west side of the building is approximately 62 by 38 feet. The building was completed in 1926.

B. SCOPE OF STUDY

This study was completed under the agreement between the City of Stockton and Cole/Yee/Schubert & Associates - Earthquake Study, City Hall, authorized by Stockton City Council Resolution No. 94-0447, October 3, 1994.

In summary, this study provides for the determination of the configuration of the seismic-resistant system of the building, limited material testing and inspection, determination of liquefaction potential of the soils at the structure, a detailed seismic evaluation of the building, development of preliminary schemes for three seismic upgrade options, construction cost estimates and written report.

C. FINDINGS

1. Structural:

The analysis for earthquake forces revealed deficiencies in the unreinforced brick masonry (URM) infill walls and concrete walls. We have determined these elements are the primary lateral force-resisting system of the building.

The stiff concrete walls, such as concrete partitions and vault walls, are discontinuous and result in plan and vertical irregularities. Concrete stairs act as braces between floors also absorbing large forces. Since there are only a few of these elements in the building, seismic force demand greatly exceeds their capacity and supporting columns below.

Further analysis after removing the failed concrete walls and stairs from the model indicates the inability of the URM infill walls to resist the design basis earthquake seismic forces. The non-ductile concrete moment
frames, although many in number, do not have the capacity to resist this magnitude of lateral force alone.

2. Architectural / Non-Structural:

The Stockton City Hall, constructed in 1926 is representative of many public buildings built in California in the early twentieth century. It is designed in the Neo-Classical or Greek Revival architectural style, popular in public and civic architecture for conveying a sense of balance, harmony, and permanence by means of a symmetrical and orderly plan.

The City Hall is a three-story building of reinforced brick masonry and concrete columns with a clay tile roof, terracotta facing on the exterior, and imitation stone and plaster on the interior walls. The Neo-Classical elements of heavy Greek columns creating exterior porticos and supporting a highly ornamented entablature, are present in the Stockton City Hall.

Natural light and air were originally introduced into the central core areas of the building by large windows in the exterior walls and two full height (three story) light wells. The light well was also a typical element in many buildings of that time period. The light wells have since been removed and the floor area recaptured to provide additional space for the expanding administrative departments and services of a growing city. Other uses which were designed into the original plan, i.e. rifle range, detention cells for men and women, Justice Court, have been moved to locations outside of the building to accommodate that growth.

The public lobbies of the City Hall contain ornamented cast plaster work in the coffered ceiling, decorative cornices, and elaborate column capitals. In the main floor lobby especially, the area is emphasized by a dramatic 18-foot high ceiling, delicately and meticulously painted plaster work, two large murals painted directly on the west wall of the lobby depicting scenes from the history of California, and intricate metalwork. The open, central stairway (marble between the first and second floors, and concrete from the second to the third floor) is notable for its detailed wood handrail. The remaining areas of the building are more administrative in nature and reflect a straightforward and simple office styling. The one exception is the second floor meeting room at the north end of the lobby, which is richly paneled in wood at all four walls.

Of special interest is the covered Automobile Shelter at the west exterior elevation of the building. Constructed of steel and glass, it lends an element of openness and lightness in contrast to the formality and heaviness of the main building.

The Stockton City Hall has been in continuous use since it was first occupied in 1926. As a result, many alterations and building modifications
have been made to improve the function and the quality of space for the employees working there, i.e. HVAC system, fire and life safety modifications, lighting and electrical upgrade. In the process of making these changes, finish materials have been introduced which were not part of the original building - suspended ceiling system, acoustical ceiling tile, fluorescent light fixtures, gypsum board partitions, etc. These changes occur mainly in the non-public areas of the building.

D. RECOMMENDATIONS

1. Structural:

A detailed seismic evaluation of the existing Stockton City Hall was completed. Based on the information available to us, we recommend the hazards noted in this report be mitigated to meet the minimum performance levels stated in this report.

2. Architectural / Non-Structural

In March of 1983, a resolution was introduced by the Stockton Cultural Heritage Board and passed by the Stockton City Council to designate the City Hall as an historical and cultural landmark. As an historic building, there is a responsibility to protect and preserve the building as physical documentation of the economical and political history of Stockton, and as an example of the design and construction techniques of that time period.

Toward this end, as part of the preparation of construction documents for bidding, a thorough data collection and recording effort is essential to document the existing condition of the building in the event that damage to the building occurs. Specifically in the lobby areas, prior to the start of any construction, an identification process must be outlined and implemented in case the removal, replacement, or reproduction of cast plaster ornamentation, painted ornamentation, carved stonework, or architectural detailing of woodwork becomes necessary. This may necessitate the making of plaster molds to reproduce the detailed plaster ornamentation. Standard construction methods and procedures for finish work as we know it today will not be sufficient, and specialized craftsmen and artists will need to be retained to handle the delicate work required in these areas.

The proposed retrofit schemes are sensitive to the historic nature of the building. There appears to be little or minor impact to the areas which contain elaborate architectural detailing. Nevertheless, adequate precautions must be taken during the course of construction to protect the existing parts of the building which will not be directly impacted by the retrofit plan. These include freestanding display cases, original custom designed light fixtures and chandeliers, statues and urns, bronze plaques,
etc. In addition, these items, along with exterior clay roof tiles, unbraced columns, glass transoms, and plaster ceilings on metal lath (in various stages of deterioration) may also become potential falling hazards in the event of seismic activity, and must be addressed in the retrofit program.

Efforts are being made to bring City Hall up to building code and handicapped access compliance. A few areas do not and cannot meet access requirements. Due to space constraints, it would be economically and physically impossible to bring the entire building into compliance. Recommendations are currently being considered to address fire and life safety concerns and energy conservation issues.

If the Stockton City Hall is to remain open and occupied during the construction period, extreme precautions must be taken to meet exiting, environmental, and air-quality requirements to protect the general public and City staff.

E. PROPOSED RETROFIT

1. Structural:

Three preliminary retrofit schemes are proposed to mitigate the lateral force-resisting system deficiencies. These schemes are reinforced concrete shearwalls, passive energy dissipation - dampers, and base isolation.

Placement of new lateral force-resisting elements do consider the central lobby areas which contain ornate architectural features.

It should be noted that further analysis and study of these and other retrofit schemes may realize reductions in estimated construction costs.

2. Architectural / Non-Structural:

In each of the retrofit schemes studied, the selection of areas of work and wall placement was based to a large degree on minimum disruption to exterior motif and interior finishes, and minimum disruption to highly ornamented walls and ceilings. Only those areas and situations which require particular attention to the historic and artistic nature of the building are addressed in this section. In response to the proposed structural retrofit schemes, architectural retrofit will be impacted in the following ways.

**Shearwall Scheme**

The shearwall scheme attempts to place the new walls in areas of the building where minimum disruption, architecturally and historically, will occur. Where the shearwalls connect with the existing perimeter walls, the impact is insignificant and will require only minor patching. The affected
existing spaces must be re-programmed and re-planned to accommodate
the functions of these departments.

The collector beams which work in conjunction with the shear walls, will
not cause any apparent disturbance to areas of historical significance.
Access through either a suspended ceiling or a plaster ceiling in most cases
are not critical. The exceptions are at the following locations:

1. First Floor Lobby Ceiling: At the North and South elevations
between columns 60 and 57, and 6 and 7, to access the existing
girder it will be necessary to remove and replace (or replicate) the
plaster ceiling, the painted cast plaster cornice, and possibly the
cast plaster column caps and imitation stone wall finish.

2. Second Floor Council Chamber Ceiling: To introduce collector
beams between columns 4 and 9, the plaster ceiling finish (with
glued-on acoustical tile), decorative plaster cornices, and plaster
wrapped beams will be impacted. Remove and replace (or
reproduce) plaster ceiling, decorative cast plaster cornice in areas
of new collector beams; create a box beam pattern in keeping with
the existing ceiling.

3. Second Floor Meeting Room at North Corridor: At this location,
the introduction of collector beams will impact the entire south
wall of this room which has original full height wood paneling. If
possible, work from the Corridor side of the wall will cause the
least impact. Protection from construction work, vibration, etc. is
necessary to prevent damage to the paneling.

**Damper Scheme**

The energy dissipation scheme is also sensitive to the historic nature of the
building. Where the new damper walls meet existing perimeter walls, the
impact is minimal and will require only minor patching. The location of
the damper walls will necessitate re-programming and re-planning of the
departments affected by the retrofit. Because the collector beam system
for the damper scheme and the shearwall scheme are essentially the same,
the architectural impact is essentially the same (see items 1 through 3
above) with the addition of the following item:

4. Portico at North Elevation: Two collector beams occur at the
ceiling of the exterior portico at columns 67 and 107, and columns
74 and 14. Remove the terracotta facing and molding to allow
access for construction in this area, replace or reproduce finishes
to match the original work.
In conjunction with the damper scheme, the other areas affected by the retrofit are:

5. Vaults: The removal of the concrete walls at Vaults 2 and 3, and concrete walls and roof slabs at Vaults 4, 5, 6 and 7 will be necessary. With the exception of Vaults 2 and 3, this work will have no major architectural impact on the existing building. However, the west walls of Vaults 2 and 3 are common with the Central Lobby walls. The removal and replacement (or replication) of marble base, imitation stone finish, decorated plaster cornice and capital at pilaster will be necessary at these locations.

6. Stairs: Providing a seismic isolation joint at the intermediate landings of the lobby stairs between the 1st-2nd, 2nd-3rd, and 3rd-roof will have no significant architectural impact. This work does require the application of a fiberwrap system at columns 29, 30, 35, and 36, to increase the displacement ductility of the column. The impact at columns 30 and 35 will be minor. Columns 29 and 36, however, are integral architectural and artistic elements of the Central and Second Floor lobbies. Care must be taken to remove the cast plaster column capital and cornice detailing, column and/or wall facing, and marble base and reapply these finishes to match the original intent.

7. Strengthening of Wall at South Entrance: To strengthen the 18 foot tall unreinforced masonry wall at the south entrance into the Main Lobby, it will be necessary to attach six full height steel tube columns directly to the wall. Since they will be visible at two locations on the wall, it will be necessary to trim them out in a fashion similar to and in keeping with the existing lobby design.

**Base Isolation**

Although this retrofit scheme would have the least impact on the building architecturally, it would cause major disturbance to the functioning of the building as a whole. Just the moving of the Boiler Room equipment to a temporary location would be a major undertaking. Closing the basement during construction would be required. Re-routing of other utilities, reproduction services, and all the other functions and activities located in the basement would be necessary. Serious consideration of all the implications and alternatives to make this scheme viable and economical would be imperative.
overstressed. For example, the core stairs axial force demand is approximately 500 kips. The axial capacity of the stairs was calculated as approximately 100 kips.

Failure of the above elements is assumed. The URM infill shear walls must then absorb the seismic forces. Applying the seismic forces to the URM infill walls results in demand forces in the equivalent struts exceeding their capacity. The URM equivalent struts were assumed to fail at a strain of 0.003 in/in.

The remaining lateral force-resisting system is the concrete moment frame. This frame is non-ductile. Column tie spacing is typically 12 inches on center. The 18 foot first-story height creates a soft story. This frame does not have the strength or stiffness capacity to resist the CBC or FEMA 178 earthquake loading alone. Displacement ductilities of several existing columns were calculated and found to be non-complying with demands of the earthquake loads.

2. Out-of-Plane Direction:

The height-to-thickness ratios of the exterior URM walls from ground to roof vary from 9.3 to 10.8. Comparison to maximum height-to-thickness ratios given in Table A-1-B of the UCBC for Seismic Zone 4, 9 for the top story and 13 for others, correlates well with that existing. We estimated exterior URM wall thicknesses from the drawings to be 21 inches from basement to first, 17 inches from first to second, and 12 inches from second to roof. Seismic Zone 4 criteria was selected due to the lower performance level established by the UCBC.

Non-complying URM walls were found to occur from penthouse floor to penthouse roof and at the south entrance of the first floor.

C. FOUNDATIONS

Existing column footing sizes vary from four to six feet square below URM walls. The geotechnical report for this study indicates firm soil at footing level. A detailed analysis was not undertaken since a URM failure would probably occur prior to any foundation failure.

D. NON-STRUCTURAL ELEMENTS

1. Ceilings:

The existing plaster ceiling is reinforced with metal lath and suspended from the structural framing with wires. Typically, a drop-in acoustical tile/metal ceiling is suspended below and attached to the plaster ceiling. We expect a good earthquake performance of the metal lath and plaster
ceiling if it is tied to adjacent plaster finished partitions. However, if the metal lath is partially corroded, as has occurred in the basement ceiling area, then the ceiling is a potential falling hazard.

All suspended acoustical tile/grid ceilings should be laterally braced by 45° splay wires and be a heavy duty grid. We are unaware of the exact configuration of the present ceilings. We expect a poor performance from the existing ceiling grids if they do not have these features.

2. Elevators:

The elevators did not appear to be retrofitted to meet the current seismic provisions of the California Elevator Safety Code. We would expect a poor performance of the elevators in a design basis seismic event.

3. Piping:

Large diameter piping should be braced in accordance with "Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems" by SMACNA. We observed only a small portion of the suspended piping and are unaware of the extent of bracing for piping.

4. Architectural Appendages:

The interior fake round columns at the first floor entry (eight total) should be investigated further to determine their anchorages to the structure. The existing drawings to not show details of any connections to the structure.

The urns anchored to the exterior ledge at third floor level are severely cracked. The original drawings show a steel pipe inside the urn to support it. The cause of the cracking may be corrosion from the steel pipe. Remedial measures should be taken to mitigate this potential falling hazard after the exact cause of the distress is known.

The original exterior terra cotta cornice at third floor level has been removed and replaced with a fiberglass replica which is not considered a potential falling hazard.

VIII. PROPOSED RETROFIT AND STRENGTHENING

A. BASIS OF SELECTION

1. General: Three retrofit schemes were investigated:

- Reinforced Concrete Shear Wall
- Passive Energy Dissipation - Dampers
- Base Isolation
damper and reinforced concrete shearwall schemes, we estimate shallow continuous spread footings would be used under lateral force-resisting elements in these two retrofit schemes.

A new concrete mat foundation system is recommended for the base isolation scheme due to the close spacing of interior and exterior columns. It would be located under the new isolators.

G. CONSTRUCTION COST ESTIMATE

A detailed construction cost estimate has been completed for the work to retrofit the structural deficiencies noted in this report. This construction cost estimate is based on preliminary seismic retrofit schemes and is subject to change if the retrofit continues into final construction documents.

Non-structural items addressed in this study are not included in this construction cost estimate, except for the base isolation scheme which allows approximately $560,000 for tenant improvements in the basement.

This estimate includes the subcontractor and prime contractor overhead, profit, and construction contingency. It does not include professional design fees. The estimate is qualified by the assumptions/considerations as given in the "Estimate of Probable Construction Cost - Stockton City Hall, Earthquake Study" dated 1 December 1994 by A.M. Abrate, Cost Engineer, under separate cover.

A summary of the estimated construction costs for each retrofit scheme is as follows:

- Reinforced Concrete Shear Wall: $2,082,000
- Passive Energy Dissipation - Dampers: $2,259,000
- Base Isolation: $3,245,000

IX. CONCLUSIONS AND RECOMMENDATIONS

A. STRUCTURAL

The Stockton City Hall has been found to be structurally deficient for resisting the design basis earthquake forces when analyzed in accordance with the California Building Code, Title 24 and the NEHRP Handbook for the Seismic Evaluation of Existing Buildings (FEMA 178).

Recommendations are given for the retrofit considering three different structural schemes - reinforced concrete shearwall, passive energy dissipation - dampers and base isolation.
Selection of the retrofit scheme should be based on expected performance as well as cost. A cost-performance table summarizing this study is given under X.E.

B. ARCHITECTURAL / NON-STRUCTURAL

The consequences of seismic activity can be extensive, with irreparable damage done to a building. The costs required for the necessary modifications must be weighed against the loss of a valuable historic document.

All of the proposed structural retrofit schemes appear to be basic and straightforward, causing as little disruption to the existing structure as is reasonably possible. Nevertheless, a serious survey and identification document must be prepared to insure that the historic value of the building interior remains intact or is carefully replicated to restore the impacted areas to their original aesthetic intent.

The seismic upgrading of the Stockton City Hall must preserve not only the structural integrity of the building, but also the artistic and architectural integrity, and protect this building as physical evidence of the evolution of art and architecture in California.
(N) 3x3x BRACING IN WINDOW WALL CENTER BAY

(N) TRUSS ANCHORAGE TO (E) CONC. COL.

(N) CONT. 4x4 STRUT

(N) TRUSS ANCHORAGE TO (E) CONC. COL.

(N) 10" CONC. SHEAR WALL- TYP.

(N) SINGLE COLLECTOR- TYP.

STRUCTURAL RETROFIT - SHEAR WALLS
FIRST FLOOR
STRUCTURAL RETROFIT - DAMPERS
FIRST FLOOR
SECTION

COLLECTOR BEAM RETROFIT

(AT DAMPERS AND SHEARWALLS)
SIDE JACKET COLLECTOR BEAM RETROFIT

2-#5 DOWELS @ 12" O.C.-TYP. IN EPOXY OR POLYESTER RESIN

(N) 10" CONCRETE WALL
GROUND TO 2ND FLR:
#5 @ 12" O.C. E.W. E.F.
2ND FLOOR TO ROOF:
#5 @ 18" O.C. E.W. E.F.

SIDE JACKET COLLECTOR BEAM RETROFIT

(E) FLOOR

(E) COLUMN

(N) 24" X 16" VERT. CONCRETE WALL BOUNDARY MEMBER TYPICAL

(E) BEAM

C-15 TYPICAL ELEVATION • CONCRETE SHEARWALL
TYPICAL ELEVATION  •  DAMPER FRAMES
PLAN
CONCRETE COLUMN RETROFIT AT DAMPER FRAMES
STOCKTON CITY HALL

SECTION

BASE ISOLATION SCHEME

EXISTING
UMR WALL

1'-3"

EXISTING
COLUMNS

(TYP.

(N) CONC.
RETAINING
WALL

(N) CONC. SUPPORTED
FLOOR SYSTEM

(N) CONC.
ISOLATOR

MAT FOUNDATION

(N) 24" THICK

EXISTING
BASEMENT

FLOOR LEVEL
(1) 9" URM BRICK WALL (NON-INFILL)

@ ENTRY 1ST FLOOR

SEISMIC ISOLATION JOINT

LOBBY SIDE

ANCHORS, EPOXY OR RESIN EMBEDDED @ 1/3 POINTS

SECTION

C-18

STRENGTHENING OF SLENDER URM BRICK WALLS
APPENDIX D

City Hall Center Project
ACMA's Scope of Services
The following document is the revised Scope of Services supplied to the City of Stockton by ACMA dated 9/7/95. City staff changes are shown in *bold italics*.

### Phase I

#### Revised Scope of Services

**Scope of Services**

This revised scope of programming, conceptual design and estimating services for the City Hall Center Project has been modified to reflect City budget limitations and comments from the City of Stockton regarding essential components. Based on this information, our revised project approach focuses on the following issues:

- Space needs assessment and space requirements (short, mid and long term).
- City Hall for rehabilitation plan.
- Site development concepts.
- Cost estimate for budget purposes.
- Colored rendering for public release.

The simplified flowchart on the following page illustrates the overall process, the tasks and key meetings as noted from City requirements. The scope of services discussed on these pages is for Phase I only. Subsequent phases, beginning with Schematic Design, would be contracted separately after a concept and budget have been established.

*All material generated as part of the City Hall Center Project will be the property of the City of Stockton.*

**PHASE I**

**RECONNAISSANCE, NEEDS ASSESSMENT AND PROGRAMMING**

All proposed work tasks, specific methodologies, and products are described. This scope is based on the assumption of availability and timely delivery of baseline materials and information from the City of Stockton as noted at points throughout the text.

Perhaps the most important link in the chain of project development is the active input of the Client (City of Stockton). The active involvement of both Client and user results in a consensus which reflects a balance of needs, desires and even dreams. From concepts through occupancy, the design team will meet with the City to develop a good understanding of the program, current and future needs, design expectations and to reach a consensus on a strategy for implementation.

As the project approaches the Concept Design Phase, ACMA will begin to develop "architectural context" studies that will initially be used for the preparation of concepts and later refined or revised as the designs are developed.

"Architectural context" studies will consist of a series of maps and 3-D computer drawings of the project area illustrating factors which will be important to development of concepts such as:

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ACMA's Revised Scope of Services for City Hall Center Project
City Staff's Recommended Changes Shown in Bold Italic

D-1

September 12, 1995
Task 1
Project Initiation and Orientation

On award of contract, ACMA will attend an initial meeting (kick-off meeting) with the City (Client) to discuss design expectations and develop a strategy for reviews and approvals from required authorities during the course of the project. **ACMA will work closely with City in developing the schedule for the various meetings and approvals.**

**Approval Process:** At key decision points during the project the City Manager will ask the Council Committee to review the current status of the project. At that time a decision will be made as to whether or not the current status of the project should go to the full Council for information and/or approval. It will usually take a minimum of two weeks for report from the Council Committee to reach the full City Council. It is estimated that the Phase I of the project will require 4 to 5 meetings with the Council Committee and 3 to 4 presentations to the City Council.

It is intended to quickly and thoroughly acquaint ACMA's team with available information; and resources, establish the interface with the City Council City Hall Center Project Committee and City Manager to guide the consultant team’s work effort. Sub-tasks for this meeting will include:

- Introduction of ACMA’s team to City staff and Council Committee.
- The scope of services and schedule will be included as part of ACMA’s contract with the City.
- Establish coordination procedures for the City and the consultant team.
- The City Project Manager will provide the study team through the City of Stockton existing reports, studies, plans, population projections or other information.
- Review and confirm significant issues and development objectives for the Stockton City Hall Center Project.

Task 2
Research, Reconnaissance Building Surveys

ACMA will visit the site and surrounding neighborhood; photograph, research and study Stockton's City Hall and other city facilities. ACMA will explore the limits and Building Surveys and opportunities of the Civic Center, allowable heights and building massing, parking requirements; the City's zoning, planning, environmental and processing requirements for this facility.

While we understand that the City will furnish ACMA with allowable building
heights, parking requirements and zoning, we will need to review and be familiar with this material in order to be able to develop subsequent design concepts which are consistent with these requirements.

32.2 ACMA will conduct visual surveys of existing city facilities and prepare as-built drawings for use during Phase I. These drawings may require additional detail during subsequent phases.

The "as-built" drawings will be developed as computer drawings from existing record drawings provided by the City. The level of detail will include interior partitions, stairs, restrooms, etc., sufficient to allow space programming studies and concept designs. By developing these drawings in computer format, the interchange of information between members of the consultant team will be facilitated permitting alternate schemes to be developed efficiently and rapidly. These drawings will be prepared by our local associated architects, Lesovsky Donaldson, as part of their work effort, at a cost of $10,400.

32.3 ACMA will collect from the City and compile existing reports, occupancy data, building/space plans, and other baseline information necessary for development of the City Hall Center Planning criteria. These materials will be reviewed and organized into a planning data base. Missing or incomplete data will be identified prior to initiation of the planning studies.

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Task 3

Facilities Needs Assessment

The first major objective will be to assess the present and future space requirements for the City Hall Center facilities. Meeting this objective requires an understanding of existing facilities, the operations performed by the City and the space implications of those operations, projected over time.

3.1 Develop, Space Audit

For each facility, ACMA will compile and summarize available occupancy data and site conditions to make an assessment as to its future functionality and appropriateness.

3.2 Establish Space Allocation Standards

ACMA will develop new standards for private offices, open office workstations, conference rooms and special areas. These will be based on functional need and job classifications and will be applied to all space needs assessments.

In order to prepare future projections of space requirements, some standards for space allocation must be developed. Our approach draws upon a carefully developed audit of existing space and definitions of the type of variations in specific space needs you have described (even within the same job classification). Coupled with the furniture assessment (see item 3.4) our approach is designed to accommodate variation within various employee classifications and thereby create useful space standards for the projection of future space requirements.

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ACMA's Revised Scope of Services for City Hall Center Project
City Staff's Recommended Changes Shown in Bold Italics

D-3 September 12, 1995
3.3 Conduct User Group Interviews

Executive interviews will be held to gain a "big picture" understanding of staff growth in City Hall; the future relationship of services and operations to staff growth; locational criteria; centralization/decentralization issues; and management's priorities. ACMA will conduct interview and walk-throughs with each department manager to obtain detailed space and staff needs and staff space needs and assess the surpluses and shortfalls of existing conditions.

ACMA will conduct the following meetings:

- General meeting with all departments to explain the type of information that ACMA will need to perform their space audit. Departments will put together the requested information and City will submit same to ACMA. Allow 4-6 weeks for departments to gather information.

- ACMA will conduct follow-up meetings with the City Manager and the various departments. Departments will revise the information as necessary and the City will submit same to ACMA.

- ACMA will conduct a minimum of two more follow-up meetings and/or meet until a consensus is reached with the City concerning space allocation requirements.

3.4 Furniture Assessment

ACMA will conduct a visual survey of the existing furniture and develop guidelines for re-use reflected in the new space standards. We will also establish new furniture criteria, particularly as it relates to systems furniture products.

ACMA will conduct the furniture assessment surveys for the purpose of defining existing equipment sizes, types, etc., as well as their potential for re-use. This will be essential in establishing realistic space standards and in developing future space requirements.

3.5 Define Critical Decision Criteria

Utilizing the baseline information, executive interviews and space audit, ACMA will define the critical operational links between the functional units, the growth indicators as well as technological drivers to be used for understanding future staff and space needs for the ten, 20, and 30 year timeframe. "Technological drivers" consist of new developments in technology such as computer networking, E-mail, new telecommunications equipment (i.e. teleconferencing, energy systems management) which could result in space savings or consolidation. Through discussions with City representatives, it will be determined which, if any, of these "technological drivers" might be introduced by the City in the future and therefore what their affect may be on future space projections.

The results of this task will be summarized in a series of deliverables for review by the City Manager and the Council Committee as follows:

- Space Allocation Standards: Diagrams illustrating the amount of space and
type of furniture allocated to each job classification and space type. See comments for item 3.2.

- Micro Space Database: Staff and space requirements for operating units at all facilities, existing and projected through 2025, with 2 intermittent planning periods.

The data base information for each time period will be arrayed in a matrix format (see attached example from our current Los Angeles City Hall project). The first page is broken down by staff job classifications (both number of staff and space requirements) and projected for each time period. The second page makes the same projections for required equipment.

- Proximity & Workflow Matrix: Required and preferred relationships based on personnel interface and material/information flow, with emphasis on anticipated technology decisions.

- Occupancy Guidelines: Compilation of locational, architectural, environmental and technological criteria for each facility type.

Based on meetings with City representatives, a consensus would be developed as to what are the most appropriate guidelines to be used in preparing space projections and space planning. For example, subject to what technological improvements the City may anticipate for the future (i.e., interconnected communications software), splitting departments in different locations could be facilitated or hindered. By developing these guidelines early in the process they also become measures of evaluation for various alternative concepts.

The facilities needs assessment will yield the basic physical requirements for facilities. Concurrent with this effort, the Design team will determine overall building and site requirements in order to analyze alternative concepts and/or sites and subsequent cost/budget analysis.

4.1 Building Footprints, Massing and Area Requirements

Site needs analysis begins with an application of space factors to the functional requirements (service and circulation) to establish the gross space requirements, or total building construction needs. Combined with the functional and configurational requirements for the facilities, this would establish optimal building footprints. Mandatory ground floor public access uses, identified in the space relationship matrixes, such as the Permit Center would, for example, determine much of the footprint requirements. Remaining space requirements coupled with setbacks, height limitations and other zoning would then determine building massing.

4.2 Overall Site Area Requirements

After establishing building footprint requirements, additional site needs would then be determined. The first of these site needs, is customer parking requirements based upon (a) code requirements, and (b) City policy. The City will make a determination
of all City employee parking requirements. Determination of the requirements for outdoor public space such as a plaza or courtyard will also be established.

4.3 Site Relationships

The combined facility, parking, and outdoor space needs will then be studied with regard to the relational requirements of the various components of the City Hall Center and a series of concept diagrams will be developed illustrating functional and urban design relationships. These will become the basis for analysis of alternate sites and development of the subsequent schematic master plan of the City Hall Center Project. The result of this site requirements analysis will be a determining factor in site feasibility and/or net area and relationship requirements for the City Hall Center development.

A series of site plans or diagrams (for the area surrounding City Hall) will be prepared which illustrate:

- Ground floor building requirements for City functions (i.e., permit center, revenue counter, etc.)
- Outdoor space requirements (plazas, service areas, trash storage, etc.)
- Parking (customer parking only)
- Urban design relationships (setbacks from historic City Hall, distances between departments, separation of public and service entrances, etc.)

These drawings will allow the consultant team to establish planning and design criteria (do’s and don’ts) for the preparation of concept plans for the City Hall Center project.

Task 5

Historic Building Analysis

As a component of the overall City Hall Center Project the historic Stockton City Hall requires special attention. Listed on the State Register of Historic Buildings, this 1927 Beaux Arts Style building has long played an important symbolic and governmental role in Stockton. Over the years, the building has suffered from deterioration and a lack of maintenance making it inefficient and substandard with regard to current codes. In order to continue to meet the City’s functional needs, substantial rehabilitation work will be required, all within the context of its historic character. With this basic background, the following specific key issues will need to be addressed in the planning and design of the City Hall renovation:

5.1 Historical Issues

The historical and architectural significance of the building will be assessed by the project team, working with Leslie Crow. Our team will gather readily available primary and secondary documentary and photographic material relevant to the history of the City Hall.

A brief report discussing the historical and architectural significance of City Hall will be prepared and illustrated with appropriate photographs and plans.

- Identification and Evaluation of Significant Character Defining Features. The historical characteristics of the building may be feasible in the design (not
historical restoration) of the interior improvements to City Hall. These historical characteristics may include wainscots, high ceilings, floor coverings, etc.

A physical investigation of City Hall will be made to survey all surviving character defining features on the exterior and interior of the building. This survey will be limited to the exterior of the building, and common areas such as lobbies and Council Chambers, and other areas with a potential for adding to the historical character of the building. Some of these other areas might include the restoration of the high ceilings in some of the City offices which have a lot of public contact. Each of the character defining features will be examined to evaluate its existing condition and its possible use in the design of the rehabilitated City Hall.

- Recommendations for Rehabilitation

Space planning proposals for the most appropriate functions to be housed in City Hall will be reviewed and evaluated. The impact of proposed modifications on the character defining features of the building will be discussed with the other members of the team. Recommendations will be given to permit the most effective use of the building while ensuring that the original architectural integrity of the edifice is preserved and enhanced.

- Recommendations for Additional Physical Investigation and Research

Recommendations will be given for a more detailed investigation of the building that is appropriate for the Phase Two work on the building and review by the State Office of Historic Preservation. These additional investigations will be used to identify additional areas (such as the use of wainscots, restoration of the high ceilings, etc.) where it may be feasible to restore some of the historical character of City Hall. All major areas (exterior of the building and common areas such as lobbies and Council Chambers) of City Hall that are proposed for preservation will be completed as part of Phase I.

5.2 Building (Engineering) Systems

Structural, Plumbing and Electrical Engineering Surveys have recently been undertaken by the City and provided to ACMA. The surveys identify serious building systems deficiencies. Additionally, it may be assumed that the existing Heating, Ventilation and Air Conditioning (HVAC) Systems are deficient and, likewise, must be completely upgraded in order to meet the needs of proposed contemporary office and other City functions. However, careful examination of alternate means of achieving adequate HVAC Systems must be examined to insure preservation of interiors in this historic structure.

Within the context of complete refurbishment of the electrical systems, power requirements for lighting and other electrical systems will need to be taken into account. Anticipation of these future requirements will be critical to ensure that systems will have adequate capacity for equipment required by future uses.

ACMA will review existing reports and utilize them as the basis for preparing a concept plan and cost budget for rehabilitation of City Hall within the context of the
In determining the priority elements of a rehabilitation program for Stockton City Hall, compliance with current life safety codes will be of primary importance. Issues of exiting will be of key concern and will require early resolution in order to allow for safe reopening of the facility. Fire protection will also need to be addressed as will the seismic upgrading of facility. We have reviewed the previous engineering studies assessing these issues and would evaluate findings as part of our own design and engineering process. All of these issues will need to be accomplished within the context of the historic characteristics of the building to minimize their impacts on this landmark structure.

In addition to other code compliance concerns, special attention will need to be applied to accessibility standards for the physically disabled (ADA, state and local) in the renovation and reuse of the City Hall.

Based on the City objectives for Phase I, Tasks 5 and 6 represent key issues which will need to be addressed in the assessment of the historic City Hall building in order to prepare a plan of action for its rehabilitation. Our proposed approach to the project is intended to incorporate these issues and develop the means by which consensus can be reached as to their resolution and a project design developed which can meet the technical and functional requirements of this project and fulfill community expectations.

During the Concept Design Phase, ACMA and consultants will develop a minimum of three (3) alternative site and architectural concepts illustrating vehicular site circulation and parking (customer only), height and bulk of building masses, pedestrian and open space amenities. The concepts will include square footage tabulations for each scheme. ACMA’s architectural team and the Space planner will work closely with the City to incorporate programming and space planning needs.

It is intended that the space planner will meet with the various departments throughout the course of the project in order to develop a consensus regarding departmental needs.

The space planner will conduct the following meetings:

- General meeting with all departments to explain the type of information that ACMA will need to perform their space audit. Departments will put together the requested information and City will submit same to ACMA. Allow 4-6 weeks for departments to gather information.

- ACMA will conduct follow-up meetings with the City Manager and the various departments. Departments will revise the space planning...
information as necessary and the City will submit same to ACMA.

• ACMA will conduct a minimum of two more follow-up meetings and/or meet until a consensus is reached with the City concerning space allocation requirements.

A mutually selected alternative site plan, alternative architectural concept and development recommendations will be refined into a Concept Plan (Master Plan) for the site. This Concept will be graphically developed and appropriately rendered for plan review with the City Manager, Community Development, Public Works and other departments to be selected by the City.

"Developmental recommendations" refer to specific recommendations for physical development to meet the projected need for space to house City functions in the future.

Task 1
Space Occupancy Strategies

1.1 Space Occupancy Strategies

Occupancy strategies will be developed based on the growth indicators, operational links between departments and base data approved by the City Manager and Council Committee. The scenarios will show the size and quantity of each facility type by area.

Occupancy strategies refers to the conceptual approach for allocation of City functions or departments within physical facilities such as grouping/combining like functions or departments, splitting departments or within departments (if appropriate) or separating departments by requirements for public contact. These strategies or approaches then become the basis upon which we would develop alternate occupancy scenarios. See additional comments under deliverables: Occupancy Scenarios.

1.2 Functional and Operational Considerations

ACMA’s team will observe work flow in City Hall and other facilities, and discuss existing space problems with City staff. The future operations, established earlier, would be analyzed as to implications for space needs and a listing of general area needs, public contact needs, security needs and other baseline requirements would be formulated. ACMA and City will jointly review these findings and adjust them as necessary until a consensus is reached. ACMA We will then analyze functional needs, based on activities to occur in each area, the types of equipment that will be used there and the work flow requirements, in order to determine the proximity needs, special HVAC considerations (if any), special power needs, and other requirements on new facilities. Each occupancy strategy will be tested against critical, functional and operational requirements such as accessibility and security.

ACMA will work with the City on the various occupancy strategies until a consensus
1.3 Test to Fit Space Analysis

To the extent feasible, ACMA will test the typical floor configurations and structural modules to establish the layout factors which must be applied to the space requirements database. The layout factors account for existing building inefficient and/or unique conditions.

This task will result in a series of conceptual space plans (drawings) which test the actual fit of the space requirements within physical facilities (i.e., existing buildings or new construction). For example, assuming that one of the occupancy scenarios calls for placement of a series of functions within the historic City Hall, a conceptual space plan would be prepared to test whether the physical space can actually accommodate those functions. This is particularly important with older buildings since their efficiency (usable space vs. total space) is often less than that of new or more recent buildings.

1.4 Building Stacking

A diagrammatic and quantitative summary of staff and space allocations will be developed to illustrate potential distributions of City services within existing or new facilities. This will become the basis for subsequent creation of alternate scenarios for the City Hall Center Project.

"A diagrammatic and quantitative summary of staff and space allocations" refers to a conceptual drawing (usually an expanded 3-D drawing showing all floors of a particular building) and a numerical matrix (number of staff and square footage space requirements) which would be prepared to show how City departmental and other functions would be distributed within different facilities.

The results of these work efforts will be summarized in a series of deliverables as follows:

- Occupancy Scenarios: An optimal occupancy strategy including alternatives that consider the variable relationships between the functional groups in and out of City Hall.

  "Occupancy scenarios" will be prepared as drawings which show actual layouts by department. As an example, if one strategy is to house elected officials and public functions in the historic City Hall, consolidated departments in a new building and "back of house" (support functions) in a leased facility nearby, then this would be illustrated with specific drawings.

- Advantages and Disadvantages: The pros and cons of each occupancy alternative relative to economic, functional/operation and locational considerations.

- Conceptual Space Utilization Plans: Typical space layouts based on a prototypical program representing the user groups. These will be limited to the number of architectural alternatives (maximum of 3). There may be a...
Task 2
Alternative Site Concepts: Identification and Quantification

Using projected space requirements, functional relationships and other data established in previous tasks, alternative site concepts for the City Hall Center development will be established. Based on information received from the City Manager’s office, two scenarios defined in our proposal will be pursued. The proposal to be pursued will not be determined until after the space needs (building footprints) are known. Two possible scenarios are outlined below.

- Rehab City Hall with new buildings to the south, removal of Lees Automotive and expansion into the Wells Fargo parking lot. Might include demolition of City Hall Annex (study closure of Lindsey Street).
- Rehab City Hall with new building to the south (study closure of Lindsey Street).

Fundamental data for each alternative concept, such as size, utility locations, streets (existing and proposed), zoning, surrounding land uses, proposed plans for development and other pertinent information will be quantified for subsequent analysis and comparative evaluation.

Task 3
Alternative Concept Evaluation

Each of the two alternative concepts will be evaluated utilizing the space and functional criteria as measures of their effectiveness. In addition to the fundamental requirement of adequate size, each site will be evaluated using the following criteria:

3.1 Site Fit

The facilities programming effort will have yielded a total gross building area for all of the candidate facilities and functions in the proposed City Hall Center complex. A first criterion for site or concept selection will be the capability of each to accommodate the Civic Center facilities.

3.2 Rehabilitation Potentials
The existing City Hall, *City Hall Annex and the Permit Center* and other structures will be evaluated for rehabilitation potential to accommodate some of the future requirements of the City Hall Center building program.

3.3 Site Amenities

Each site alternative will be ranked according to the relative values of certain of their intrinsic characteristics, such as desirable views, solar exposure, prevailing winds and relationship.

3.4 Location

The location of the site relative to the existing City Hall will be a significant factor in selecting a concept. Proximity to City Hall, as well as the centroid of City activities (present and future) can have a major impact on the efficiency of City services.

3.5 Civic Image

The City recognizes the symbolic importance of its City Hall and City Hall Center complex. This symbolic role will be addressed eventually through the architectural design of the facilities, but the site itself will determine in large part the ability of the architecture to express this important civic image. The Civic Center will also have an impact on its surrounding neighborhood, and will include potential for reinforcing existing adjacent uses or generating new uses that enhance the urban context and engender greater civic identification overall.

3.6 Vehicular Access

Each site must be evaluated with regard to its ability to accommodate traffic loads within the site specific and its immediate surroundings. Access criteria will include adjacency to main roads, relationship to traffic mitigation measures being planned, impact on existing traffic patterns, ability to accommodate service and loading areas, and community accessibility.

3.7 Parking

Parking area requirements for customer parking will be applied to an assessment of the capacity of each site to accommodate them together with other projected needs for access. The City will be responsible for providing parking for City Hall employees.

3.8 Expansion Potential

The analysis of space needs will project City Hall Center space requirements for an approximate thirty year period, based on the City's population growth and future operations. A wisely selected plan will allow for the potential of future growth.
beyond this projection; thus, the ability of each alternative site to accommodate unforeseen future expansion will be assessed as a part of the selection criteria.

As noted in comments under task 1.2 ACMA will consider combining and/or splitting departments as appropriate.

3.9 Compatibility with Surrounding Uses

Civic image impacts on surrounding areas have been addressed above. Additional concerns about the Center’s potential compatibility with a site’s neighboring uses, such as the relationship between institutional, commercial, and residential uses or the proximity to complementary facilities, will also be assessed.

3.10 Present Zoning Restrictions

Any existing zoning or other development constraints, including height, setback, and land use restrictions, will be considered as selection criteria in evaluating each site.

3.11 Development Cost Estimates

ACMA will prepare probable cost estimates for the proposed alternatives using unit costs per square foot together with estimates of site acquisition and development costs and related architectural and engineering services.

Based on this comparative evaluation, a design concept for the City Hall Center project will be selected and refined. A final report will be prepared summarizing the recommended approach and will include appropriate text, charts, diagrams and other graphics necessary to describe the plan. This will include a long range plan, a phased implementation plan, cost budgets and a colored rendering.
PHASE II
SCHEMATIC
DESIGN PHASE

During the Schematic Design Phase, the selected design concept and site location will be expanded, focusing on environmental issues, site circulation and parking, height and bulk of building masses, pedestrian and open space amenities; architecture and buildings systems design; construction cost and schedule. Particular emphasis will be placed on the seismic analysis of City Hall, exploring compatible strengthening alternatives and respective impacts to architecture, historic fabric and building systems.

ACMA and Consultants will study and recommend structural systems, mechanical and electrical systems, then prepare Schematic Design Documents including drawings which convey the scope, cost estimates and the schedule will be confirmed.

PHASE II
DESIGN
DEVELOPMENT

Upon approval from the Client, ACMA will incorporate required changes and proceed from Schematic Design to Design Development. The designs will be developed in greater detail and outline specifications will be prepared to describe the quality and character of the entire project. All efforts will be made to identify economies of budget and schedule while not compromising the quality of traditional characteristics that will be required to compliment the existing City Hall, other existing buildings or proposed new buildings.

PHASE II
CONSTRUCTION
DOCUMENTS PHASE

Upon approval from the Client, ACMA will incorporate required changes and proceed with Design Development to Construction Documents. Complete drawings and Specifications which set forth in detail the requirements for construction, consistent with the budget, will be prepared for competitive bidding. Upon completion and following several preliminary plan reviews, the Construction Documents will be submitted for plan check.

During the last six to eight weeks of the Construction Documents Phase, prior to Plan Check submittal, ACMA will assign quality control personnel to review the documents. During this time, ACMA will assist the City in the bidder pre-qualification process and the preparation of bid documents.

ACMA's Revised Scope of Services for City Hall Center Project
City Staff's Recommended Changes Shown in Bold Italic

D-14

September 12, 1995
ACMA takes pride in our commitment to provide a high level of service to our clients during the Construction Administration Phase. We will attend weekly construction meetings and monitor the work as required to assure that the quality is consistent with the intent of the Construction Documents. We will process all submittals, shop drawings, requests for information (requests for clarification) in a timely and orderly sequence and carefully review change order requests as required to safeguard the City from added costs.

Our systems for processing construction information and shop drawings are set-up in a computer database file, whereby a series of clear and concise submittal forms are used to monitor and track construction related issues. Through this system, ACMA can easily organize, retrieve and cross-reference large quantities of information.