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General Review and Building Evaluation

of

AMES MANSION

**355 Commonwealth Avenue
Boston, Massachusetts**

Prepared for:

The Canadian Consulate in Boston

Revised: December 29, 1983
CEM No. 4406



CE MAGUIRE, INC.

Architects . Engineers . Planners

60 First Avenue, Waltham, Massachusetts 02254

**THE MAGUIRE
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December 29, 1983

Mr. Robert D. Merner
Acting Consul General
Canadian Consulate General
500 Boylston Street
Boston, Massachusetts 02116

Reference: Architectural and Engineering Review
of the Governor Oliver Ames Mansion

Dear Mr. Merner:

We are pleased to present you with this report noting the general condition of the Governor Oliver Ames Mansion. It is our understanding that you are considering this building for use as the new home of the Canadian Consulate in Boston.

This report contains an evaluation of all aspects of the building including those aspects we discussed on December 8, 1983.

We enjoyed this opportunity to work with you, and should you decide to purchase the Ames Mansion, we would be pleased to provide any architectural, engineering or interior design services that you might require to suit the building to the Consulate's specific needs.

Sincerely yours,

CE MAGUIRE, INC.

Brian P. O'Donnell, A.I.A.
Assistant Vice President
Group Manager
Architectural Division

BOD:rm

Enclosure

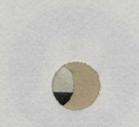
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1. BUILDING DESCRIPTION

On October 13, 1983, a condition survey team visited the Governor Oliver Ames Mansion located at the northeast corner of the intersection of Commonwealth Avenue and Massachusetts Avenue. The team consisted of the following members:

TABLE OF CONTENTS

	Letter of Transmittal	Page
Brian	Project Engineer	
Richard	Structural Engineer	
Dan	Mechanical Engineer	
Dan	Electrical Engineer	
	1. Building Description	1
	2. Architectural Review	2
	3. Structural Review	4
	4. Mechanical Review	4
	5. Electrical Review	5
	6. Conclusion	8

Basement: - This area is comprised of unfinished walls and is generally for storage. The boiler room and passenger elevator machine room are located in this area. Two elevators service this level. A main stair and supplementary rear stair provide access to the other floors. No direct access to the exterior is provided from this level.

Ground Floor: - This area is unoccupied. Recent renovations have made this floor acceptable for office use. Access to other floors is provided by a main and supplementary stair. In addition, both the passenger and freight elevator service this level. Direct access is provided both to Massachusetts Avenue and the car parking area in the alley behind the mansion.

First Level: - This area was the main level of the original mansion containing entertainment, living and dining quarters. It is mostly unoccupied except for the Commonwealth Avenue side, which is occupied by the Faenza Company. The two stairs continue through this level as well as the elevators. Direct access is provided to the Commonwealth Avenue side of the structure from this level and was the main entry point to the original mansion.

Second Level: - This area is presently occupied by The Finch Group, Inc., and Cramer & Co., Inc. It is served by both the stairs and elevators. No direct access to the street occurs at this level or any levels above this level.

Third Level: - This area is presently occupied by Gray-Judson, Inc. It is served by both the stairs and elevators. It should be noted that the main stair stops at this

TABLE OF CONTENTS

<u>Page</u>	<u>Letter of Transmittal</u>
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5	6. Conclusion

1. BUILDING DESCRIPTION

On October 13, 1983, a condition survey team visited the Governor Oliver Ames Mansion located at the northeast corner of the intersection of Commonwealth Avenue and Massachusetts Avenue. The team consisted of the following Maguire personnel:

Brian O'Donnell, A.I.A.	- Project Director and Architect
Richard Goddard, P.E.	- Structural Engineer
Dan Nayar, P.E.	- Mechanical Engineer
Dan Leone	- Electrical Engineer

The building is an historic structure built around 1883. The primary use was a residence. Recently the building was converted to an office as noted in the plans prepared by Childs Bertman Tseckares and Casendino, Inc., dated 5/19/81 with several revisions up to June 1982. The building contains six (6) stories each of about 4,700 square feet as noted below:

Basement - This area is comprised of unfinished walls and is used partially for storage. The main boiler room and passenger elevator machine room are located in this area. Two elevators service this level. A main stair and supplementary rear stair provide access to the other floors. No direct access to the exterior is provided from this level.

Ground Floor - This area is unoccupied. Recent renovations have made this floor acceptable for office use. Access to other floors is provided by a main and supplemental stair. In addition, both the passenger and freight elevator service this level. Direct access is provided both to Massachusetts Avenue and the car parking area in the alley behind the mansion.

First Level - This area was the main level of the original mansion containing entertainment, living and dining quarters. It is mostly unoccupied except for the Commonwealth Avenue side, which is occupied by the Faraca Company. The two stairs continue through this level as well as the elevators. Direct access is provided to the Commonwealth Avenue side of the structure from this level and was the main entry point to the original mansion.

Second Level - This area is presently occupied by The Finch Group, Inc., and Cramer & Co., Inc. It is served by both the stairs and elevators. No direct access to the street occurs at this level or any levels above this level.

Third Level - This area is presently occupied by Gray-Judson, Inc. It is served by both the stairs and elevators. It should be noted that the main stair stops at this

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- Richard Goddard, P.E. - Structural Engineer
- Don Hays, P.E. - Mechanical Engineer
- Don Leese - Electrical Engineer

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- Basement** - This area is comprised of unfinished walls and is used partially for storage. The main boiler room and passenger elevator machine room are located in this area. Two elevators service this level. A main stair and supplementary rear stairs provide access to the other floors. No direct access to the exterior is provided from this level.
- Ground Floor** - This area is unoccupied. Recent renovations have made this floor acceptable for office use. Access to other floors is provided by a main and supplementary stair. In addition, both the passenger and freight elevator service this level. Direct access is provided both to Massachusetts Avenue and the car parking area in the alley behind the mansion.
- First Level** - This area was the main level of the original mansion containing entertainment, living and dining areas. It is mostly unoccupied except for the Commonwealth Avenue side, which is occupied by the Finch Company. The two stairs continue through this level as well as the elevators. Direct access is provided to the Commonwealth Avenue side of the structure from this level and was the main entry point to the original mansion.
- Second Level** - This area is presently occupied by The Finch Group, Inc. and Cramer & Co., Inc. It is served by both the stairs and elevators. No direct access to the street occurs at this level or any levels above this level.
- Third Level** - This area is presently occupied by Gray-Judson, Inc. It is served by both the stairs and elevators. It should be noted that the main stair stops at this level.

level, and is enclosed by wire glass partitions. Over the main stair is a skylight that is artificially lighted.

Fourth Level - This area is presently occupied by Vesti Design International. It is served by both elevators and the supplemental stair. A large portion of the floor area is occupied by the enclosure of the skylight over the main stair. Clerestory lights have been provided to allow natural light to enter into the adjacent offices.

Above the fourth level is area within the roof structure used for newly installed air handling units. A wooden catwalk provides good access for the servicing of the units. The overall area of the building is approximately 28,000 square feet.

2. ARCHITECTURAL REVIEW

The exterior condition of the building is in excellent condition for its age. The brownstone is solid showing no deterioration. Mortar joints are good. It is only at the north side of the chimney at the roof that the brownstone has shown wear and the mortar joints need to be repointed. The windows, except for the fourth floor, are the original single-pane double-hung wood type. For purposes of energy conservation, insulated-type windows should be considered, still keeping the exterior appearance of the building the same.

The roof is comprised of two parts--the sloping slate areas and the relatively flat built-up areas. The slate roof is in good shape with few slates missing. The wood substructure, from a visual examination from the underside, shows no evidence of dry rot, water leakage, or insect attack. Copper flashings are the original and are still serviceable. The built up roof is sloped at a good angle to the east and rainwater is gathered in gutters and piped by means of exposed rain leaders to the ground. The membrane flashings show evidence of cracking from exposure to the ultraviolet rays of the sun. The flat built-up roof is covered with pea stone and appears to be the original roof. The roof shows evidence of good maintenance over the years. In the short-term, patching should be done at curbs, perimeter flashings and water flowage reworked at the new air-conditioning equipment bases. In the long-term, the roof should be replaced.

The basement shows evidence of water leaking in through either the windows or walls in some locations. The boiler room has a clogged drain with standing water. Ceilings are in less than good condition due to recent electrical renovations. Storage use, rather than personnel occupancy, is recommended for this area.

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The Ames Mansion, as classified by the Massachusetts State Building Code, is a Group B - Business Use, and of Type 3 or 3A. The "Type 3" designates exterior masonry wall construction with either normal or heavy timber floor and roof framing. The facility is not subject to any code restrictions as to number of stories or allowed area per story as it is an existing structure.

It is interesting to note that there are certain aspects of the egress stairs, elevators and fire protection systems in the mansion that would normally be upgraded by code requirements. However, because this is an historic building, it receives generous exemptions according to the code. The exemptions were given by the City to the present owners in their recent renovation effort. These exemptions are explained in Section 436 of the Massachusetts State Building Code and relate to whether the building is open to the public or is to be used for private business. It should also be noted that although the building is not recorded on the National List of Historic Places, it has received the above-noted code exemption by the City and is subject to the review of the Back Bay Architectural Review Committee for any renovation work.

If the building is to be for private use, no upgrading need be undertaken. However, if the building is open to the public for more than 50 days* per year, certain improvements are required.

These include smoke detection devices and other fire protection devices. It should be noted that the recent renovations provided emergency lighting and exit signs which are part of these requirements.

Other aspects of the recent renovations include new male and female toilet rooms on each of the floors, stair improvements, new finishes, lighting, and power distribution. These all add considerably to the use of the mansion as an office facility.

If this building was not exempt by virtue of Section 436 of the code due to its historic significance, compliance would be required in the following areas:

- A. The supplemental stair would have to be enclosed. Any new doors or partitions, according to Section 2203.12, would require a one-hour rating.
- B. Major modifications would have to be made to the elevator enclosures.
- C. Any additional means of egress would have to be provided from the fourth level.
- D. A standpipe system would be needed.

* This is 12 days according to some interpretations of the code.

The Ames Mansion, as classified by the Massachusetts State Building Code, is a Group B - Business Use, and of Type 3 or 3A. The "Type 5" designation exterior masonry wall construction with either normal or heavy timber floor and roof framing. The facility is not subject to any code restrictions as to number of stories or allowed area per story as it is an existing structure.

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E. A smoke control system would need to be added in the open stairwell area.

However, as was stated, Section 436 of the code omits the need for these improvements as follows:

"The legal use and occupancy of any partially preserved building may be continued without change or further compliance to this Code."

Overall, the architectural appeal of this building is impressive. The condition of the building is excellent for its age.

3. STRUCTURAL REVIEW

The structure is masonry bearing wall founded on wood piles with wood framed floors and a mansard roof. Foundation masonry is cut granite, exterior is brown stone with brick backup, and the interior bearing walls are brick. All masonry appears to be in excellent condition with the exception of some erosion of the brown stone on the exterior back face of the chimneys.

Floor and roof framing appears heavy although no measurements were taken at this time. The floor over the boiler room is brick arches set in the bottom flange of steel beams to provide for fire-resistant construction.

Structurally, the basement parking scheme is impractical to impossible due to the proximity of several bearing walls in the area at the back alley where the grades are feasible for access to the basement.

The interior bearing wall at grade level in the proposed reception area at the Massachusetts Avenue side could have two arched openings cut in the wall at each side of the existing door.

4. MECHANICAL REVIEW

The Governor Oliver Ames Mansion is a six-story historical building of about 28,000 square feet, heated by steam-fired column type radiators and hot water radiation. Steam is produced by an oil-fired low pressure steam boiler.

The basement boiler room has a H.B. Smith Series 28 seven section oil-fired steam boiler with Carlin 800 CRD 3/4 horsepower burner for No. 2 oil. The steam boiler has a nominal 47 boiler horsepower with an IBR net output rating of 1,200 MBH (gross 1566 MBH) and 13.6 GPH of oil consumption. It has 153.5 square foot of heating surface and furnace volume of 24.34 cubic feet. It has a 12-inch vent connection and two steam risers connected to a 5-inch header and 2½-inch equalizer. The boiler is new and was installed very recently and is in good condition. It was not working during the visit.

3. A smoke control system would need to be added in the open stairwell area.

However, as was stated, Section 435 of the code omits the need for these improvements as follows:

"The legal use and occupancy of any partially preserved building may be continued without change or further compliance to this Code."

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The exterior bearing wall at grade level in the proposed reception area at the Massachusetts Avenue side could have two arched openings cut in the wall at each side of the existing door.

4. MECHANICAL REVIEW

The Governor Oliver Ames Mansion is a six-story historical building of about 38,000 square feet, heated by steam-fired column type radiators and hot water radiation. Steam is produced by an oil-fired low pressure steam boiler.

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The steam is fed to steam radiators spread throughout the building except for the second through fourth floors. Steam from the boiler is also fed to a hot water converter with two pumps. The upper floors are heated with hot water radiators. The steam radiators are provided with manually controlled valves and Barnes & Jones Model 122 steam traps. The steam radiator in ground floor women's

toilet was disconnected and lying loose in one of the front rooms. There is no provision for combustion air for the boiler in the boiler room itself. The boiler during operation draws air from the basement rooms. The fuel oil tank is also located in the boiler room.

The condensate pump set was cycling even though the boiler was off. This probably needs attention.

As far as air-conditioning is concerned, there are approximately twelve (12) window air-conditioners in various windows of the building. The fourth floor attic space has several DX type air handling units which seem to air condition the fourth floor and perhaps the third floor as well. The ductwork could not be traced. All units appear to be functioning.

There are five (5) air-cooled condensing units located on the roof, as follows:

- A. Carrier Model 38BA608540 (about 65 MBH capacity)
- B. Carrier Model 38CB060400 (about 60 MBH capacity)
- C. Carrier Model 38GS024340 (about 24 MBH capacity)

They all appear to be new and functioning.

If the remaining floors of the building need air-conditioning, then it could easily be done only by window-type air-conditioners or through the wall-type incremental units which may not be esthetically acceptable.

The plumbing pipes, as observed in the basement, appear to be in good condition and show no evidence of leakage. It was noted that the floor drain located in the basement was clogged and could be a groundwater problem as small fish were observed in the water. The recently renovated toilet rooms were adequate in number and in good condition. Hot water is provided by an oil-fired A. O. Smith hot water heater.

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There are five (5) air-cooled condensing units located on the roof as follows:

- A. Carrier Model 38A60240 (about 65 MBH capacity)
- B. Carrier Model 38C60400 (about 65 MBH capacity)
- C. Carrier Model 38S204340 (about 24 MBH capacity)

They all appear to be new and functioning.

If the remaining floors of the building need air-conditioning, then it could easily be done only by window-type air-conditioners or through the wall-type incremental units which may not be aesthetically acceptable.

The plumbing pipes, as observed in the basement, appear to be in good condition and show no evidence of leakage. It was noted that the floor drain located in the basement was clogged and could be a groundwater problem as small fish were observed in the water. The recently renovated boiler rooms were adequate in number and in good condition. Hot water is provided by an oil-fired A. O. Smith hot water heater.

5. ELECTRICAL REVIEW

The existing electrical systems contained in the building at the time of inspection represent a combination of various electrical renovations and additions performed on the building over the years. The existing electrical systems are in most cases as good or better than most buildings of the same vintage or location. The electrical systems apparent at the time of inspection with comments on their general conditions are as follows:

Electrical Service and Power Distribution System:

The building is serviced by an underground 200 amp, 120/208V, 3-phase, 4-wire Boston Edison Company service. The service terminates at a Current Transformer metering arrangement via the basement center corridor. A Distribution Panel at that point in turn

sub-feeds multiple old and new smaller panelboards and load centers. From this distribution location, all major electrical loads in the building are fed, such as the boiler room equipment, the two elevators and all other riser fed panelboards on each floor which have all been replaced by new panelboards adjacent to existing panelboards which are now used as junction boxes.

Duplex receptacles and special purpose outlets have been added throughout the building which have been branch fed from local floor panels or, in some cases, from the floor below as was the case for the ground floor receptacles which were fed in basement ceiling space access holes punched in basement ceilings. These 120-volt receptacles serve all 120-volt needs throughout the building, such as typewriters, calculators, desk lamps, air-conditioners, etc.

Telephone Service and Distribution System:

The New England Telephone service and distribution center is located in the basement center corridor directly across from the electrical distribution equipment. Telephone cable distribution originates at this point and feeds the entire building via a system of cable risers and terminal boxes located on each floor, usually adjacent to the electrical equipment. New telephone floor boxes have been installed on ground floor adjacent to duplex receptacle floor boxes.

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Building Lighting:

Lighting throughout the building appears to be adequate for circulation and office work needs, except for the basement floor which needs work. In general, recently installed recessed or decorative incandescent lighting is used for lobbies, foyers, circulation areas, etc. For recently renovated office areas, indirect and direct fluorescent lighting has been installed. All lighting has been provided with some sort of local switch control. Lighting in the basement at the time of inspection was nothing more than bare lamp incandescent porcelain sockets.

Emergency Lighting:

Emergency lighting for the building is accomplished by a battery pack system with remote lighting heads located in stairwells, corridors, and other means of egress. Battery packs are typically located in electrical closets throughout the building. The lighting coverage at this time appears to be adequate for the correct building use due to recent renovations. The system was spot tested and some lamphoods were found to be burned out and in need of replacement.

Exit Signs:

Illuminated exit signs are located at most egress doors throughout the building. Exit signs were all operating and some have been installed with directional arrows which is the recommended practice in certain installations. The exit signs do not appear to be connected to an emergency source for operation during power outages. Based on the historic treatment of the building, this may not be required.

Additional exit signs could be located in some locations throughout the building to point out clear paths of egress.

Replacement of existing signs and installation of new exit signs which operate on a dual voltage system could be considered. This type of system would allow exit signs to operate on normal 120-volt power and on 12 VDC power from an integral or remote battery during a power outage.

Burglar Alarm System:

The burglar alarm system central control panel is located on the basement telephone backboard and appears to be connected to telephone lines for remote police station or agency alarm indication when system has been violated. Surface mounted magnetic door switches have been installed at most exterior doors for intrusion alarm monitoring. Some door switches appear to have been painted over and may not be operational. The system was not tested for obvious reasons, but did appear to be operating generally. If further renovations are anticipated system testing, modifications and expansion should be considered.

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6. CONCLUSION

Fire Alarm System:

The building's fire alarm system appears to be activated by a single manual pull station located in the Massachusetts Avenue ground floor vestibule, which is presently hanging out from the wall due to recent renovations. When this manual station is pulled, it should activate a few fire alarm horns throughout the building. It is not clear how or if the Boston Fire Department is alerted during a fire alarm condition, this must be confirmed later.

Additionally, there are surface mounted smoke detectors located in the building because of the recent fourth floor renovation work. They appear to be independent operation from visual inspection. The existing fire alarm system needs updating and expansion should renovations be planned.

In addition to the previously listed systems' modifications and changes, the following electrical work should be considered at this time for safety and/or operational reasons:

1. Close up and/or cover all electrical panelboards and equipment at basement electrical distribution area.
2. Clean up and organize all telephone system wiring in some area.
3. Cover all ceiling and wall outlet boxes throughout building, especially in basement.
4. Patch up and close in all holes for exposed basement power and telephone wiring in existing ceiling.
5. Replace existing incandescent lighting with new fluorescent lighting in basement to suit new space use.
6. Possibly expand duplex receptacles to suit new space use.
7. Install new emergency lighting and exit signs as required for new space use.
8. Install wiring device cover plates on ground floor switches and receptacles.
9. Consider installation of new exterior security lighting in rear of building.

6. CONCLUSION

Based upon our review of the drawings and our site observation visit, we found no major liabilities with the building except for the items listed above. Assuring that the City exemption for historical significance still stand, these would be the items that would be required. However, in accordance with a meeting on December 8, 1983 with officials of the Canadian Consulate, it is our understanding that they would like the building to be upgraded to comply with those safety features that would provide conformance with the code in regard to fire safety, emergency egress, and energy improvements. With these directives, the following additional renovation work is recommended for each of the major architectural and engineering improvements.

Architectural

1. The small passenger elevator located near the supplemental stair should be removed and all openings to the shaft closed off with 2-hour rated partition assemblies. A 2-hour rated fire-stop should be provided at each floor. All elevator equipment should be removed.
2. The wooden supplemental stair at the rear of the building should be removed and replaced with a new steel stair. The walls around this stair should be upgraded to provide 2-hour rated separation. All doors leading from this stair should be upgraded to "B" label.
3. Remove and replace the large freight elevator at the front of the building to a modern passenger type with selective-collective control and handicap requirements.
4. Remove the existing double-hung single-pane windows throughout the building except for the fourth level and replace with double-hung insulated windows that will duplicate the existing historical significance at the exterior.
5. It should be noted that those minimum requirements noted in the basic work costs should also be undertaken to include the following:
 - a. repainting chimney.
 - b. patching roof flashing and add a cricket on new condensor units.
 - c. repair of slate roof.
 - d. repair waterleaks in basement.
 - e. unclamp drain in boiler room.
 - f. installation of fire doors at stair.
 - g. new openings in bearing walls in basement for people circulation.

- h. adding an additional enclosed stairway from the fourth to the third level.

Mechanical

In addition to those recommendations made in the first section of this report for minimal code compliance, we would recommend the following additional safety features be added:

1. Provision should be made for outdoor combustion air inlet for the boiler and domestic hot water heater in the basement as per code requirement as initially recommended.
2. It is also a good engineering practice to provide thermostatically controlled ventilation and heating in the boiler room. It is not a code requirement.
3. The main stair with its skylight and clerestory can be classified as an atrium space. In that event, the provisions of code under section 437 of "open wells" would be applicable. This requires a smoke control system in terms of supply and exhaust of 40,000 CFM of air. The supply has to be at the lowest level of the stair and exhaust at the top. The exhaust fan also has to be provided with emergency power. The exhaust fan emergency power could be as high as 7½ HP if one fan is used. The stair may also have to be enclosed in a one-hour rated enclosure. If the enclosure is in the form of a glass wall, then sprinklers spaced 6' apart will have to be installed on both sides of the wall at no more than 1' from it.
4. Since the building is less than 70' and therefore the sprinkler provisions of Article 431 will not apply.

Energy and Future Air Conditioning

1. The existing low pressure steam boiler can be easily converted to a hot water type boiler by removing all steam trim and replacing it with hot water boiler trim as per the provision of Massachusetts Code. These can be in the form of low water cutoff, (UL and FM approved; e.g., hydro-level 170M). Two aquastats, one with high limit having manual reset, safety and pressure relief valve (40 psig and 1,535 MBH rating) and combination temperature and pressure gauge. This will aid in reducing energy costs.
2. The air conditioning of the building can be carried out by air/air heat pump units, through the wall type for perimeter spaces and split units for interior spaces. These units can also have hot water coil for the heating of perimeter spaces or alternatively electric coils can also be provided. Hot water fin-tube radiation can also be

adding an additional enclosed stairway from the fourth to the third level.

Mechanical

In addition to those recommendations made in the first section of this report for minimal code compliance, we would recommend the following additional safety features be added:

1. Provision should be made for outdoor combustion air inlet for the boiler and domestic hot water heater in the basement as per code requirement as initially recommended.
2. It is also a good engineering practice to provide thermostatically controlled ventilation and heating in the boiler room. It is not a code requirement.
3. The main stair with its skylight and clerestory can be classified as an atrium space. In that event, the provisions of code under section 507 of "open wells" would be applicable. This requires a smoke control system in terms of supply and exhaust of 40,000 CFM of air. The supply has to be at the lowest level of the stair and exhaust at the top. The exhaust fan also has to be provided with emergency power. The exhaust fan emergency power could be as high as 7 1/2 HP if one fan is used. The stair may also have to be enclosed in a one-hour rated enclosure. If the enclosure is in the form of a glass wall, then sprinklers spaced 6' apart will have to be installed on both sides of the wall at no more than 1' from it.
4. Since the building is less than 70' and therefore the sprinkler provisions of Article 901 will not apply.

Energy and Future Air Conditioning

1. The existing low pressure steam boiler can be easily converted to a hot water type boiler by removing all steam trim and replacing it with hot water boiler trim as per the provision of Massachusetts Code. There can be in the form of low water cutoff, UL and FM approved; e.g., hydro-level, two thermostats, one with high limit having manual reset, safety and pressure relief valve (40 psig and 1.25 MSH rating) and combination temperature and pressure gauge. This will aid in reducing energy costs.
2. The air conditioning of the building can be carried out by air/air heat pump units through the wall type for perimeter spaces and split units for interior spaces. These units can also have hot water coil for the heating of perimeter spaces or alternatively electric coils can also be provided. Hot water fin-tube radiation can also be

provided. This heating system can replace the existing steam heating system at lower levels.

Electrical

In accordance with the decisions made at the 12/8/83 meeting to upgrade the building electrical systems for the safety and comfort of Consulate personnel, the following electrical renovation work is recommended. In some cases, the electrical improvements discussed are expansions of our initial recommendations:

1. The existing 200 amp, 120/208 V - 3-phase - 4-wire electric service and main distribution equipment may have to be increased in size to handle new anticipated air conditioning equipment, stair smoke exhaust equipment, new elevator, computers and word processor terminal power requirements. The total impact of these additional loads would be determined and examined during the design phase when final horsepowers, etc., could be discussed with Boston Edison Company.
2. To conform to Mass. State Building Code requirements, an emergency power supply is required to operate stair smoke exhaust equipment in the event of a normal power outage. Therefore, a small diesel driven generator would be recommended to supply emergency power to stair exhaust fan during such outages. Generator with associated transfer switch and fuel oil storage tank would be located in the basement.
3. Disconnect and remove DC electric service to small passenger elevator equipment, including feeder conduits, cables, etc. All DC service equipment in the basement should be disconnected and removed.
4. A power distribution feeder survey and branch circuit identification investigation is recommended for the building existing distribution system in order to determine all active and spare circuit breakers, fuses, conductors, etc. This information would be helpful during any renovations to building and also to Consulate personnel when building is occupied.
5. To insure safe egress out of building at all times, it is strongly recommended that all new or renovated stairwells and egress paths to such stairwells be provided with new emergency battery lighting units and emergency battery equipped dual voltage illuminated exit signs, as required.
6. Install a new automatic fire alarm system which should, in general, include a central control panel, heat detection, smoke detection, manual pull stations, horn-light units,

ELEVATOR SAFETY INSPECTIONS, INC.

754 BOXFORD STREET

NORTH ANDOVER, MASSACHUSETTS 01845

alarm annunciation at an entrance vestibule and automatic alarm signal transmission to City of Boston Fire Alarm Headquarters.

7. Provide new lighting as required in new steel stairwell and 4th and 3rd floor stair to suit architecture and conditions of new stairways.

To: Mr. S. Donnell

C. E. Maguire

From: Mr. Joseph E. Morrissey

E. S. I., Inc.

Date: 10/20/83

Page 1

Subject: 2 passenger elevators located at 355 Commonwealth Ave.
Boston, Ma. Oliver Ames Mansion:

The following code violations were noted on P-6-10001,
passenger elevator at the above location, on 10/19/83.

- (1) The car top emergency exit cover is missing.
- (2) Fire emergency signs are needed on all landing door jambs.
- (3) The elevator hoist ropes show wear and numerous breaks in the wire strands are showing.
- (4) The elevator hoistway is not provided with a vent to the outside air. This vent is to allow smoke and gasses to the outer air in case of fire.
- (5) The stucco covering the hoistway is peeling off in large pieces and falling on top of the elevator and the counterweight. The stucco should be removed as soon as possible.
- (6) The packing gland on the machine should be replaced. This packing prevents the machine gear oil from leaking out.
- (7) A window on the second floor can be opened from the landing side of hoistway. The elevator passes within five (5") inches of the window sill. All of the hoistway windows should be removed and a fire rated material installed in their place flush with the hoistway wall.

The following code violations were noted on P-6-10002,
passenger elevator at the above location on 10/19/83.

- (1) Water lines have recently been installed in the elevator machine room, some of these pipes are leaking, any water that drops on electrical equipment could start a fire or cause extensive damage to the equipment.
- (2) The elevator machine room ceiling is not fire rated.
- (3) The electrical wiring for the machine room lights is draped over water lines passing through rods.
- (4) The elevator machine emits a grinding noise in the down direction. This noise could be generated by a faulty thrust bearing.
- (5) The packing gland should be replaced.
- (6) Landing hoistway doors at two floors contain broken glass.
- (7) All landing doors are eight and one-half inches back from the edge of the hoistway side of landing thresholds. The maximum is four inches. These doors should be moved in to meet required measurement or baffles should be installed.

ELEVATOR SAFETY INSPECTIONS, INC.

754 BOXFORD STREET

NORTH ANDOVER, MASSACHUSETTS 01845

(617) 681-1909

TO: Mr. O'Donnell
C. E. Maguire
From: Mr. Joseph E. Morrissey
E. S. I., Inc.

Date: 10/20/83

Page 1

Subject: 2 passenger elevators located at 355 Commonwealth Ave.
Boston, Ma. Oliver Ames Mansion:

The following code violations were noted on P-6-10001,
passenger elevator at the above location on 10/19/83.

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- (3) The elevator hoist ropes show wear and numerous breaks in the wire strands are showing.
- (4) The elevator hoistway is not provided with a vent to the outside air. This vent is to allow smoke and gasses to the outer air in case of fire.
- (5) The stucco covering the hoistway is peeling off in large pieces and falling on top of the elevator and the counterweight. The stucco should be removed as soon as possible.
- (6) The packing gland on the machine should be replaced. This packing prevents the machine gear oil from leaking out.
- (7) A window on the second floor can be opened from the landing side of hoistway. The elevator passes within five (5") inches of the window sill. All of the hoistway windows should be removed and a fire rated material installed in their place flush with the hoistway wall.

The following code violations were noted on P-6-10002,
passenger elevator at the above location on 10/19/83.

- (1) Water lines have recently been installed in the elevator machine room, some of these pipes are leaking; any water that drops on electrical equipment could start a fire or cause extensive damage to the equipment.
- (2) The elevator machine room ceiling is not fire rated.
- (3) The electrical wiring for the machine room lights is draped over water lines passing through room.
- (4) The elevator machine emits a grinding noise in the down direction. This noise could be generated by a faulty thrust bearing.
- (5) The packing gland should be replaced.
- (6) Landing hoistway doors at two floors contain broken glass.
- (7) All landing doors are eight and one-half inches back from the edge of the hoistway side of landing thresholds. The maximum is four inches. These doors should be moved in to meet required measurement or baffles should be installed.

ELEVATOR SAFETY INSPECTIONS, INC.

754 BOXFORD STREET

NORTH ANDOVER, MASSACHUSETTS 01845

(617) 681-1909

TO: Mr. O'Donnell
C. E. Maguire
From: Mr. Joseph E. Morrissey
E. S. I., Inc.
Date: 10/20/83

Page 2

Subject: 2 passenger elevators located at 355 Commonwealth Ave.
Boston, Ma. Oliver Ames Mansion.

The following prices are approximate figures. Passenger # P-6-

10001 repairs:

- | | |
|--|-------------------|
| (1) Repalce the emergency cover: | \$ 200.00 |
| (2) Install fire emergency signs on all landings: | <u>150.00</u> |
| (3) Renew the hoist ropes: | <u>1500.00</u> |
| (4) Vent the hoistway: | <u>200.00</u> |
| (5) Remove stucco covering the hoistway walls:
A licensed elevator person will be needed
to operate the elevator while workers re-
move stucco. This cost would be on a dailey
basis paid by the person removing stucco. | <u> </u> |
| (6) Replace the packing on the machine gland: | <u>200.00</u> |
| (7) Remove windows from the hoistway and install
fire rated material in their place.
A licensed elevator person would be needed
as in # 5. | <u> </u> |

Total cost for passenger 1 \$2050.00
plus hoistway work by non
elevator people.

Passenger # P-6-10002:.

- | | |
|---|----------------------|
| (1) Relocate the water lines and drains in the
machine room: This work would be performed
by others. | \$ <u> </u> |
| (2) Install fire rated material in the hoistway
and the machine room: By others:
Licensed elevator person would be needed to
operate elevator if hoistway work is perfor-
med from the car top. | <u> </u> |
| (3) Install proper lighting in the machine room:
By others: | <u> </u> |
| (4) Remove machine thrust bearing and inspect;
Inspect worm and gear: | <u>350.00</u> |

ELEVATOR SAFETY INSPECTIONS, INC.

754 BOXFORD STREET

NORTH ANDOVER, MASSACHUSETTS 01845

(617) 681-1909

Page 3

Passenger # P-6-10002 cont.

(5) Replace the packing on the machine gland:	<u>\$ 200.00</u>
(6) Replace the broken glass in the landing doors:	<u>75.00</u>
(7) Install baffles on the landing doors:	<u>1600.00</u>
Total	<u>\$2225.00</u>

The following figures are the approximate cost to update passenger elevator # P-6-10001.

Install selective-collective system: Selective-collective controlled elevators are the type usually found in small office buildings, hospitals and apartments. The car will respond automatically to the pressure of a car or corridor button. The control system will collect and save signals and respond to them in order. They are normally used in single elevator installations and up to groups or banks of three. These figures are for the elevator only.

3500 lbs. capacity at 250 feet per minute	<u>\$58,000-</u>
Six stops @ \$2600.00	<u>15,600</u>
Total	<u>\$73,600</u>

Some alterations may be needed in the machine room and the elevator hoistway will need to be two-hour fire rated. The elevator machine could be used along with the machine beams, rails and brackets, the car sling and floor.

Also included in the above price would be variable voltage equipment. This includes a DC generator, which provides for a wide range of speed and acceleration. Automatic leveling is usually included with this equipment.

Also include a cost to change the machine room electric supply from DC to AC.

Joseph E. Morrissey
Joseph E. Morrissey

ELEVATOR SAFETY INSPECTIONS, INC.

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NORTH ANDOVER, MASSACHUSETTS 01845

(617) 681-1909

Page 4

The following figures are the approximate cost to update passenger elevator # P-6-10002

Install a A.C. Rheostatic Controll system, this equipment is suitable for low speed, low rise application.

This price would include power operated doors. \$25,000

Six stops @ \$2600 15,600
\$40,600

Also include a cost to change the machine room electric feed from DC to AC.

The elevator hoistway will need a two hour fire rating along with the elevator machine room. A B-Label fire door for the machine room is also needed.

All water lines must be relocated.

Joseph E. Morrissey
Joseph E. Morrissey

ELEVATOR SAFETY INSPECTIONS, INC.

754 BOKFORD STREET

NORTH ANDOVER, MASSACHUSETTS 01845

18171 901-1908

Page 4

The following figures are the approximate cost to update
passenger elevator # P-8-10002

Install a A.C. Rheostatic Control system, this equipment
is suitable for low speed, low rise application.

This price would include power operated doors.

\$27,000

Six stops @ \$2600

12,000
\$40,000

Also include a cost to change the machine room electric
feed from DC to AC

The elevator hoistway will need a two hour fire rating
along with the elevator machine room. A B-label fire
door for the machine room is also needed.
All water lines must be relocated.

Joseph E. Morrissey
Joseph E. Morrissey

CE MAGUIRE, INC.
CEM No. 4406.100

355 Commonwealth Avenue
Office Building
Boston, Massachusetts

October, 1983

ESTIMATED COSTS SUMMARY TO UPGRADE BUILDING

TO

MINIMUM CODE AND SAFETY CONSIDERATIONS

	<u>Cost</u>
Architectural Requirements	\$31,600
Elevator Requirements	\$27,675
HVAC Requirements	\$ 5,000
Electrical Requirements	<u>\$ 9,260</u>
	<u>TOTAL COST</u> = <u>\$73,535</u>
	\$ 4,000
	\$12,000
	Allow \$ 6,000
	<u>TOTAL COST FOR ARCHITECTURAL CONSIDERATIONS</u> = <u>\$31,600</u>

October 21, 1983

Governor Ames Mansion

ARCHITECTURAL RECOMMENDED BASIC WORK COSTS

1. Repoint Chimney: 100 ± S.F. @, \$3.00/S.F.		\$ 300
2. Patch Roof Flashing and Provide Crickets New HVAC Units	Allow	\$ 1,500
3. Repair Slate Roof (missing tiles)	Allow	\$ 300
4. Repair Water Leaks in Basement	Allow	\$ 2,000
5. Unclog Drain in Boiler Room	Allow	\$ 500
6. Install Fire Rated Doors @ Stair Wells 10 Doors @ \$500 ±		\$ 5,000
7. Add New Openings in Bearing Wall at Ground Floor 2 each @ \$2,000		\$ 4,000
8. Add Interior Storm Windows 2,000 ± S.F. @ \$6.00		\$12,000
9. Add Additional Stairway from Fourth to Third Level	Allow	\$ 6,000
		<hr/>
	<u>TOTAL COST FOR ARCHITECTURAL CONSIDERATIONS</u>	<u>\$31,600</u>

TOTAL COST TO UPGRADE TO MINIMUM
CODE AND SAFETY REQUIREMENTS

October 21, 1983

Governor Ames Mansion

ELEVATOR WORK COST

The Large Elevator (P-6-10001)

To Upgrade Elevator to Present Code Minimum Requirements

Cost for Elevator Only \$ 2,050

To upgrade hoistway:

Remove Stucco 2,100 S.F. Allow \$ 6,000

Resurface Stucco 2,100 S.F. @ \$3.00/S.F. Allow \$ 6,000

Close up Windows overlooking hoistway Allow \$ 2,000

Total Large Elevator = \$16,050

The Small Elevator (P-6-10002)

To Upgrade Elevator to Minimum Requirements

Relocate Water Lines Allow \$ 2,000

Replace Damaged Ceiling and Recaulk Roof
Drain Penetration Allow \$ 1,000

Fire Rate Hoistway 1,200 S.F. @ \$3.00/S.F. \$ 3,600

Add Licensed Elevator Person - 3 mandays \$ 1,800

Lighting Machine Room Allow \$ 500

Correct Wearing of Thrust Bearing (Noise in
Machine in Down Direction) \$ 5,00

Total Small Elevator = \$11,625

TOTAL COST TO UPGRADE TO MINIMUM
CODE AND SAFETY REQUIREMENTS = \$27,675

October 21, 1983

Governor Ames Mansion

RECOMMENDED IMMEDIATE WORK

IN

HEATING, VENTILATING & AIR CONDITIONING COSTS

Provide Combustion Air for Boiler and Domestic Hot Water Heater
in Basement from Outside Source in lieu of Basement Space

Allow \$ 5,000

Install New Emergency Exit Signs in Basement

Emergency Lighting:

Install or Replace Door Alarm Switches Throughout Building

\$ 300

Expose and/or Cover all Electrical Equipment in Basement Electrical Distribution Area

\$ 360

Clean up and Organize Telephone System Wiring in Same Area

\$ 300

Cover all Ceiling and Wall Outlet Boxes Throughout Building, especially in Basement

\$ 750

Replace Existing Basement Incandescent Lighting with New Fluorescent Lighting to Suit New Space Use

\$ 2,000

Install New Emergency Lighting in Basement for New Space Use

\$ 2,000

Install Wiring Device Cover Plates on Ground Floor Switches and Receptacles

\$ 300

Install New Exterior Security Lighting in Rear of Building in Alley

\$ 2,000

IMMEDIATE ELECTRICAL WORK TOTAL = \$ 9,260

Recommended After Occupancy Work

BY _____ \$ 4,300

1. Replace All Existing Exit Signs with Emergency Exit Signs Throughout Building

\$ 1,300

2. Install New Duplex Receptacles in Basement to Suit New Space Use

\$ 3,000

AFTER OCCUPANCY WORK TOTAL = \$ 4,300

October 21, 1983

Governor Ames Mansion

RECOMMENDED ELECTRICAL WORK COSTS

A. Immediate Work

1. Emergency Lighting:
 Replace Burnt Out Lamps Throughout Building \$ 750
2. Exit Signs:
 Install New Emergency Exit Signs in Basement \$ 600
3. Burglar Alarm System:
 Repair or Replace Door Alarm Switches Throughout Building \$ 300
4. Closeup and/or Cover all Electrical Equipment in Basement Electrical Distribution Area \$ 360
5. Clean up and Organize Telephone System Wiring in Same Area \$ 300
6. Cover all Ceiling and Wall Outlet Boxes Throughout Building, especially in Basement \$ 750
7. Replace Existing Basement Incandescent Lighting with New Fluorescent Lighting to Suit New Space Use \$ 2,000
8. Install New Emergency Lighting in Basement for New Space Use \$ 2,000
9. Install Wiring Device Cover Plates on Ground Floor Switches and Receptacles \$ 200
10. Install New Exterior Security Lighting in Rear of Building in Alley \$ 2,000

IMMEDIATE ELECTRICAL WORK TOTAL = \$ 9,260

SAY \$10,000

B. Recommended After Occupancy Work

1. Replace All Existing Exit Signs with Emergency Exit Signs Throughout Building \$ 1,800
2. Install New Duplex Receptacles in Basement to Suit New Space Use \$ 3,000

AFTER OCCUPANCY WORK TOTAL = \$ 4,800



CE MAGUIRE, INC.
CEM No. 4406.100

355 Commonwealth Avenue
Office Building
Boston, Massachusetts

December, 1983

ESTIMATED COST SUMMARY TO UPGRADE BUILDING

TO PROVIDE

RECOMMENDED SAFETY AND CODE CONSIDERATIONS

	<u>Cost</u>
Architectural	\$150,600
Elevator	100,000
Mechanical	122,500
Electrical	<u>70,700</u>
TOTAL	\$443,800 *
With a 10% Contingency	\$500,000

* These costs are inclusive of minimum costs recommended at the beginning of this Section.

THE UNIVERSITY OF
MICHIGAN LIBRARY
ANN ARBOR, MICHIGAN

UNIVERSITY MICROFILMS
SERIALS ACQUISITION
300 N ZEEB RD
ANN ARBOR MI 48106

1985

ESTIMATED COST SUMMARY TO LIBRARY

TO INCLUDE:

FROM FRONT SHEET AND OTHER INFORMATION

1000
1000
1000
1000
1000

1000
1000
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1000

1000
1000

TOTAL

10000

The cost of the items of certain costs is shown in the table below. The cost of the items of certain costs is shown in the table below. The cost of the items of certain costs is shown in the table below.

December, 1983

Governor Ames Mansion

ARCHITECTURAL SAFETY AND CODE CONSIDERATIONS

1. Remove small elevator and enclose shaft.	\$ 10,000
2. Replace and enclose supplemental stair.	40,000
3. Upgrade large freight elevator shaftway and penthouse.	31,000
4. Provide new windows.	50,000
5. Other minimum conformance items.	<u>19,600</u>

TOTAL COST FOR ARCHITECTURAL CONSIDERATIONS \$150,600

December, 1983

Governor Ames Mansion

ELEVATOR SAFETY AND CODE CONSIDERATIONS

1. Provide new large freight elevator.	\$ 5,000
2. Controlled vertical travel.	500
TOTAL COST FOR ELEVATOR CONSIDERATION	
3. Smoke control to open stair area.	15,000

ENERGY AND FUTURE AIR CONDITIONING

1. Convert steam boiler to hot water	2,000
2. Air Conditioning	100,000
TOTAL COST FOR MECHANICAL CONSIDERATION	
	\$122,000

December, 1983

Governor Ames Mansion

MECHANICAL SAFETY AND CODE CONSIDERATIONS

- | | |
|---|----------|
| 1. Outdoor combustion air to boiler room. | \$ 5,000 |
| 2. Controlled ventilating and heating in the boiler room. | 500 |
| 3. Smoke control in open stair area. | 15,000 |

ENERGY AND FUTURE AIR CONDITIONING

- | | |
|--------------------------------------|----------------|
| 1. Convert steam boiler to hot water | 2,000 |
| 2. Air Conditioning | <u>100,000</u> |

TOTAL COST FOR MECHANICAL CONSIDERATION \$122,500

December, 1983

Governor Ames Mansion

ELECTRICAL SAFETY AND CODE CONSIDERATIONS

1.	Upgrade and increase existing electric service size, main distribution equipment, etc.	\$ 8,000
2.	Install new diesel generator, transfer switch, fuel storage tank, piping, etc.	12,000
3.	Disconnect and remove existing DC electric service to elevator equipment, etc.	3,500
4.	Power distribution feeder and branch circuit survey.	5,000
5.	New emergency lighting and exit signs for new stairwell, egress paths, etc.	6,400
6.	New automatic fire alarm system.	15,000
7.	New stairwell lighting.	2,000
8.	Disconnection, removal and/or relocation of various existing electrical systems wiring and equipment due to architectural and mechanical renovations	4,000
9.	Original items.	<u>14,800</u>
	TOTAL COST FOR ELECTRICAL CONSIDERATIONS	\$70,700

ELECTRICAL SAFETY AND CODE CONSIDERATIONS

2,800	1. Upgrade and increase existing electric service size, main distribution equipment, etc.
12,000	2. Install new diesel generator, transfer switch, fuel storage tank, piping, etc.
3,500	3. Disconnect and remove existing DC electric service to elevator equipment, etc.
5,000	4. Power distribution feeder and branch circuit survey.
6,400	5. New emergency lighting and exit signs for new stairwell, egress paths, etc.
18,000	6. New automatic fire alarm system.
2,000	7. New stairwell lighting.
4,000	8. Disconnection, removal and/or relocation of various existing electrical systems wiring and equipment due to architectural and mechanical renovations.
14,800	9. Original items.
270,700	TOTAL COST FOR ELECTRICAL CONSIDERATIONS



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