

AGENDA ITEM

707 SEPTEMBER 6, 2017

DATE: August 31, 2017
TO: Members, Board of Trustees
FROM: Steve Mazer, Director of General Services
SUBJECT: 180 Howard Street Elevator Upgrade Project

EXECUTIVE SUMMARY

This item requests Board of Trustees approval to enter into a \$2.21 million contract to upgrade the elevators at the Bar's 180 Howard Street, San Francisco building. The main components of the elevator system are original to the building, which was constructed in 1979. The 15-18 month upgrade project will be scheduled for 2018 and 2019, with costs included in the proposed budgets for those years. There is, however, now a waiting period of at least one year for elevator upgrade projects in San Francisco, due to increased construction demand throughout the city. A contract must therefore be executed soon to secure a start date in late 2018. A 10% non-refundable deposit is required at contract execution. Although the deposit will be paid in 2017, it will not impact the 2017 budget, as the payment will not become an expense for the Bar until the project starts in 2018.

BACKGROUND

Board policy, documented in Board Book Tab 4.3, Section 2, requires contracts, projects or expenditures reasonably expected to exceed \$2 million to be budgeted, or approved by a budget amendment. The policy additionally requires staff to present to the Board a cost-benefit analysis before committing to, or making a binding agreement for, any such contract, project or expenditure; the Board must then affirmatively approve the contract, project or expenditure before it can proceed. This agenda item serves as the cost-benefit analysis/business case for the elevator upgrade project.

180 Howard Street, a 13-story office building constructed in 1979, is the Bar's largest physical asset. The Bar maintains the building through continuous preventive maintenance, routine repairs and upgrades, and more significant improvements to the building's structure and systems that are necessary due to normal aging, wear and tear, technical obsolescence, and the need to comply with updated building codes. In conjunction with its property and construction project management firm, staff has developed, and is progressing through, a multi-year capital improvement plan, which includes the upgrade, replacement or new installation of components of the building's Heating, Ventilation & Air Conditioning (HVAC) System; Fire / Life Safety Systems; physical structure; and elevators. Many of these components are/were original

to the building, and at 38 years old are past the end of their useful life and are more difficult and costly to maintain.

Most capital improvement projects, while described using major categories of building systems such as "HVAC," are comprised of many individual, inter-related projects. They are included in the annual budget process and, when necessary, in the mid-year budget amendment, as was the case for the capital improvement projects scheduled for 2017. The elevator upgrade is a major, discreet project, now estimated to cost, on its own, approximately \$2.21 million (\$2.153 million plus a \$57,000 contingency). It was scheduled to be presented as part of the 2018 budget process. There is, however, now a waiting period of at least one year for elevator upgrade projects in San Francisco, due to increased construction demand throughout the city. A contract must therefore be executed soon to secure a start date in late 2018 or, if necessary, early 2019. A 10% non-refundable deposit (\$215,000) is required at contract execution.

DISCUSSION

180 Howard Street's elevators (four passenger cars and one car normally used as a service car) were manufactured and installed by Westinghouse Elevator Corporation in 1979, as part of the original building construction. Since installation, the hallway call buttons and signal fixtures, and the car interior panels, were upgraded to meet ADA/Title 24 accessibility requirements; and door safety edges were replaced with electronic motion detectors. Aside from these technical upgrades and some additional cosmetic upgrades, all of the main elevator system components in use today are from the original 1979 installation.

In 2009 the Bar engaged an engineering and construction consulting firm to perform a property condition assessment of 180 Howard's structure and all major systems, as the first step in creating a capital improvement plan to address deferred maintenance and ensure efficient operation and long-term preservation of the building. The 2009 assessment of the elevators is summarized as follows: "This equipment was considered to be of good quality when it was originally installed. The equipment is in fair to good condition and performance and ride quality are acceptable. It is, however, outdated technology and does not have the dispatching, on board diagnostic capability, energy efficiency or reliability of modern microprocessor controls and drives. We estimate the remaining useful life of the control, drive, and door equipment at four to five years before major modernization is required."

Based on this 2009 assessment, and on budget considerations, an elevator upgrade was deferred while higher priority capital improvement projects moved forward.

It must be stressed that the elevators are always in safe working order. They undergo preventive maintenance monthly, quarterly, semi-annually and annually; they undergo other repairs as necessary; and they are inspected annually by the State of California Department of Industrial Relations, Division of Occupational Safety and Health. The concerns discussed here – that the elevators are technically "past the end of their useful life" – relate to reliability and efficiency, not to safety.

In early 2014, at the end of the remaining five years of useful life estimated in the 2009 report, the Bar engaged an elevator consultant to re-assess the existing equipment and prepare a technical scope of work for modernization. The 2014 assessment is summarized as follows:

Original Equipment: Car frames, guiderails, hoist switches, governors, buffers, doors, door operators, operational controls, group dispatch controls, hoist machines, motor generators and pump units are from the original Westinghouse installation in 1979. There are increasing challenges in securing OEM (Original Equipment Manufacturer) and aftermarket parts, particularly for control system components.

Control System: The controls are the original Westinghouse ERL (relay type). This is an older technology of electro-mechanical components. Components gradually deteriorate with age and are increasingly prone to equipment failures, resulting in increased elevator malfunctions, shutdowns, entrapments and trouble calls. System availability and reliability is further impacted by the decreasing number of technicians with expertise and training to service this type of equipment. It is recommended to replace the existing controls with a new digital closed loop control system. This would significantly improve reliability, maintainability, longevity and energy savings.

Dispatch Operation: The Westinghouse ERL “two button” is a conventional dispatch system, typical of equipment of this vintage. There would be significant performance and traffic handling benefits to a “destination dispatch” system.

Hoist Machines: The Westinghouse type 38 DC geared hoist machines have a limited remaining life. It is recommended to install new AC gearless hoist machines, as they have potential longevity, energy savings and safety benefits.

Drive Systems: The elevators use motor generators to convert incoming AC power to DC. This is a dirty (carbon dust), energy inefficient and maintenance intensive technology. They should be replaced with new Insulated Gate Bipolar Transistor “power factor one” regenerative drives, resulting in significant energy savings.

Door Operator System: A new closed loop door operator system will improve system performance as well as the quality of door operation.

In March 2014 the Bar (via CBRE, its property and construction management company, and the elevator consultant) conducted an RFP process for elevator modernization, soliciting the five major elevator companies (Kone, Mitsubishi, Otis, Schindler and ThyssenKrupp). In May 2014 Otis was selected as the winning proposer, based on price, technical factors, and the particular strength and reputation of their local organization. However, due to budget constraints and other considerations at the Bar, no contract was awarded, and the upgrade project was put on hold. Since then, elevator reliability and performance have continued to degrade:

- As part of the 2009 property condition assessment, the consultant reviewed elevator maintenance history for the previous six months; there were 11 service calls during that time (an average of 1.8 calls per month). In the first eight months of 2017 there were 27 service calls (an average of 3.4 per month).
- During this same period there were five entrapments (passengers stuck in the elevator), which is above industry average.
- Service interruptions happen with increasing frequency. In 2017 one car was out of service for three months; another car was out of service for one month. Separate from those two extended service interruptions, at least one car has been out of service for a full or nearly full day on 39 separate days.

- Even when the elevators are working, minor performance malfunctions are frequent, and wait times are sometimes very long.

In June 2017 we updated the pricing for the elevator upgrade project (the scope of the project has not changed), with an eye toward scheduling the work starting in 2018. However, due to the longer lead times that are now required for elevator projects in San Francisco, a contract must be executed soon in order to get in the queue and secure a start date in late 2018 (though it is possible that early 2019 will be the earliest start date available). For this reason the contract is before the Board now, rather than as part of the 2018 budget process.

The contract with Otis for the elevator upgrade will be \$2.153 million, and will include an additional \$57,000 contingency. All controllers and drive systems will be replaced; cars and doors will be retained and refurbished. The exact technical scope of work has been prepared by a reputable elevator consultant in coordination with the construction management team at CBRE.

A new maintenance contract will also be executed, for service during the upgrade period and for five years following the upgrade. The expected cost of the maintenance contract for the upgraded elevators is approximately \$50,000 per year; this is \$10,000 per year less than our current maintenance contract. The maintenance cost will be included in the regular building operating budget as usual.

The benefits of this project cannot be expressed in terms of a monetary return on investment, but rather in terms of the functionality, efficiency and reliability of a critical building system. The elevator consultant advised that an upgraded elevator system would result in the following benefits:

1. Improved ride quality, in particular door operation, acceleration and deceleration.
2. 15% to 25% improvement in system handling capacity.
3. Over 50% reduction in waiting times and trip times.
4. 50% to 90% reduction in performance malfunctions, shutdowns and entrapments.
5. Over 50% reduction in elevator energy consumption.
6. Upgrades to latest California elevator code and safety features.
7. Improved interface for persons with disabilities.
8. Reduced maintenance costs.
9. Extension of elevator system longevity by 25+ years.

The performance and reliability problems with the existing elevators are to be expected given the age and condition of the equipment. It remains an option to defer the project further and maintain the current elevators as best we can, thereby deferring the \$2.21 million upgrade expense. The cost of this approach would be the continuing operational challenges to Bar staff, visitors and tenants that result from slow and unreliable elevators. The problems will become

more noticeable and burdensome when currently vacant floors are leased and occupied, increasing demand on the elevators. Additionally, the cost of the upgrade may increase significantly in future years.

While this project is significant and costly, it is the result of the usual and expected process of aging mechanical equipment reaching the end of its useful technical life. As noted by the elevator consultant, the upgrade will result in an efficient and reliable elevator system that should service the building for the next 25 years. For this reason staff recommends that this project be approved.

FISCAL/PERSONNEL IMPACT

This project is expected to cost \$2.21 million (\$2.153 million plus a \$57,000 contingency). It will be included in the proposed budgets for 2018 (approximately 25%) and 2019 (approximately 75%). A deposit of \$215,000 is required by Otis and will be paid in 2017; this payment will not impact the 2017 budget, as it will not become an expense for the State Bar until the project starts in 2018 (or 2019 if a start date is not available until then).

RULE AMENDMENTS

None.

BOARD BOOK IMPACT

None.

BOARD GOALS & OBJECTIVES

Strategic Plan Goal 3: Improve fiscal and operational management, emphasizing integrity, transparency, and accountability.

Objective (g): In conjunction with annual budgets, ensure maintenance and use of the Bar's Los Angeles and San Francisco buildings to maximize benefit to the Bar and the people of California.

BOARD COMMITTEE RECOMMENDATIONS

The Board of Trustees is asked to approve the following resolution:

RESOLVED, that the Board of Trustees approves the \$2.21 million project to upgrade the elevators at 180 Street, San Francisco, which 1) will result in a \$215,000 expenditure of a non-refundable deposit upon contract execution in 2017 (but will not impact the 2017 budget), and 2) will obligate the Bar (unless the deposit is forfeited) to a \$2.21 million expense (\$2.153 million plus \$57,000 contingency) which will be divided between the 2018 and 2019 annual budgets, or between the 2019 and 2020 budgets if the project cannot start before early 2019 .

ATTACHMENT(S) LIST

None.