



- Board of Directors  
*Engineering and Operations Committee*

10/8/2019 Board Meeting

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**8-2**

## **Subject**

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Authorize an increase of \$700,000 to an agreement with IBI Group, for a new not-to-exceed total of \$2,445,000 for design services for Headquarters Building improvements; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

## **Executive Summary**

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This action authorizes an amendment to an existing agreement with IBI Group for specialized technical services for preliminary design of a new Building Automation System (BAS) and specialized technical services related to upgrades of the audio/visual (AV) systems in the board and committee rooms at Metropolitan's Headquarters Building.

At Metropolitan's Headquarters Building, the existing BAS components are failing since they have been in continuous service for over 20 years. Additionally, spare parts are difficult to obtain as the system vendor has discontinued this product line. The new BAS will provide centralized control of critical building functions such as heating, ventilation, air conditioning, carbon monoxide monitoring, domestic water, smoke control, and lighting systems.

Additionally, the existing AV equipment in the board and committee rooms has been in service since 2008, while the system cabling has been in use since 1998. The AV systems have multiple components including audio, video, and voting systems. After ten years of continuous service, the frequency of equipment failures and the associated downtime has been increasing. The AV equipment in the board and committee rooms, which include items such as projectors, voting stations, videoconferencing components, speakers, and amplifiers, are aging and need to be replaced.

## **Details**

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### **Background**

Metropolitan's Headquarters Building is a 522,682-square-foot, concrete-frame structure consisting of a 12-story high-rise tower attached to a five-story wing. The business functions located in this building are critical for maintaining the continuity of Metropolitan's day-to-day operations. The occupants of the Headquarters building include approximately 840 Metropolitan staff and frequent visitors such as the Board of Directors and the public. Metropolitan began occupying the Headquarters building in 1998.

In November 2018, the Board authorized construction of the initial stage of improvements to the Headquarters building to begin upgrades or replacement of some of its aging features that have been in service for over 20 years, such as select kitchen equipment and restroom facilities on several floors; and to enhance the physical security of the building. The next stage of building improvements will address upgrades to the BAS; AV upgrades to the board and committee rooms; physical security improvements to the boardroom, rotunda, and building perimeter; and replacement of the fire alarm and smoke control systems.

This action will authorize an amendment to an existing agreement for technical services to initiate design for upgrades to the BAS and to perform additional design activities for upgrades to the AV systems at Metropolitan's Headquarters Building.

In October 2018, the Board appropriated funds and authorized the General Manager to initiate or proceed with work on all capital projects identified in the Capital Investment Plan (CIP), subject to any limits on the General Manager's authority and CEQA requirements. These projects have been reviewed with Metropolitan's CIP prioritization criteria, and were approved by Metropolitan's CIP Evaluation Team to be included in the Systems Reliability Program.

In accordance with the October 2018 action, the General Manager will authorize staff to proceed with preliminary design of upgrades to the BAS at Metropolitan's Headquarters Building, pending board authorization to increase the agreement described below. Funds for the work to be performed pursuant to the subject agreement during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Year 2018/19 and 2019/20 (Appropriation No. 15509). Funds required for work performed after fiscal year 2019/20 will be appropriated after the adoption of the next biennial budget.

### **Upgrades to Building Automation System at Metropolitan's Headquarters Building – Preliminary Design**

The BAS at the Headquarters building is critical to sustaining a conditioned environment for staff, Board members, and visitors, as required by the Occupational Safety and Health Administration. The building relies on a BAS that monitors and controls heating, ventilation, air conditioning, and domestic water. The BAS also monitors and controls temperature and humidity in the data center, which houses critical network equipment used to carry out Metropolitan's business functions. Separate systems control the building lighting and monitor carbon monoxide in the parking garage.

The original BAS consisted of proprietary components using a closed communication protocol. Over the years, as some of the original BAS controllers failed and spare parts became unavailable, Metropolitan began the process of installing a separate, parallel BAS that utilized an open communication protocol. This new BAS permitted uninterrupted operations of critical equipment located in various locations throughout the building. Partial conversion to the open communication system has increased the availability of spare parts for critical systems. The remaining critical equipment continues to utilize the original BAS controllers. However, these controllers continue to fail at an increasing rate, resulting in higher maintenance costs and an inability to operate the system in an energy-efficient manner.

This project will create a single centralized BAS that is capable of controlling all building functions by replacing the original BAS and lighting controllers with new open communication protocol controllers; upgrading the existing computer interface and installing new network servers; and programming and integrating all critical building equipment into the new BAS. Additionally, this project will install energy analytics software with machine learning capabilities to ensure maximum energy efficiency, optimal maintenance scheduling, equipment fault detection, and peak demand load shifting and shaving.

Planned preliminary design phase activities to be conducted by specialized consultants include: (1) conducting field investigations and testing; (2) tracing wiring and conduits between controllers; (3) evaluating the condition of existing cable trays and conduits; (4) determining replacement needs, including quantities of controllers, cables, conduits, and cable trays; (5) developing criteria for final design; (6) preparing a preliminary design report and preliminary layout drawings; (7) performing an independent review of conceptual layouts by a technical expert; (8) conducting value engineering by a specialized consultant; and (9) developing a preliminary cost estimate.

A total of \$975,000 is required for these activities, including \$500,000 for the technical activities by IBI Group described below; \$75,000 for a third-party peer review; \$75,000 for a value engineering assessment; \$250,000 for technical oversight by Metropolitan staff and project management; and \$75,000 for remaining budget. The value engineering assessment and third-party peer review will be performed by specialty firms under two separate agreements planned to be executed under the General Manager's Administrative Code authority to award contracts of \$250,000 or less. Staff will return to the Board at a later date to authorize an agreement for specialized consulting services during final design.

**Attachment 1** provides the allocation of the required funds. The total estimated cost to complete the upgrades to the BAS project, including the funds allocated for the work described in this action, and future design and construction costs, is anticipated to range from \$3 million to \$5 million.

### **Upgrades to Audio/Visual Systems at Metropolitan's Headquarters Building – Final Design**

The board and committee rooms at Metropolitan's Headquarters Building are used by the Board of Directors, external organizations, and staff on a regular basis. The AV systems in each of the meeting rooms are relied upon for presentations, voting, recording, broadcasting, and web streaming.

In October 2018, the Board authorized design phase activities to be conducted by IBI Group to upgrade the AV equipment in the board and committee rooms. The planned work originally included replacing cabling, projectors, microphones, speakers, amplifiers, audio recorders, voting stations, network switches; installing new cabling and conduits for each new device; and upgrading the AV system software. Additional work is required to upgrade the lighting and cooling systems in the boardroom to meet current building code standards. In addition, new AV equipment in the rotunda will be installed. No additional allocation of funds is required for this work as sufficient funds were previously allocated. However, an amendment to the IBI Group agreement is required to allow for the increased scope of work. The estimated cost for these services is \$200,000 as described below.

### **Specialized Technical Design (IBI Group) – Amendment to Agreement**

IBI Group will provide specialized technical consulting services under an existing board-authorized agreement to perform design activities for the two projects described above. The planned scope of work includes:

- *BAS upgrades*: field testing of the existing mechanical and electrical controls; evaluation of options to upgrade the existing building automation system; development of network drawings representative of the existing BAS; preparation of preliminary layout drawings of the proposed upgrades; development of phasing strategies; development of a preliminary cost estimate; identification of alternatives to implement energy analytics, and predictive maintenance analytics to improve operational efficiency. The estimated cost for these services is \$500,000.
- *Audio/visual upgrades*: field testing of the existing electrical circuits in the boardroom, detailed design and preparation of drawings and specifications for the electrical and cooling system upgrades in the boardroom, and new AV equipment in the rotunda. The estimated cost for these services is \$200,000.

IBI Group was originally prequalified to provide specialized technical services through a competitive process via Request for Qualifications No. 1040. Subsequently, IBI Group was selected based on its expertise with AV and building automation projects, including the implementation of data analytics to improve energy efficiency of existing buildings.

This action authorizes an increase of \$700,000 to the existing agreement with IBI Group, for a new not-to-exceed amount of \$2,445,000. This agreement was initially authorized by the Board in February 2018 and was subsequently amended in October 2018 and November 2018. The requested amount includes \$500,000 to provide specialized technical design for upgrades to the BAS at Metropolitan's Headquarters Building; and \$200,000 for additional final design services for the AV system upgrades at Metropolitan's Headquarters Building described above. For this agreement, Metropolitan established a Small Business Enterprise participation level of 18 percent. IBI Group has agreed to meet this level of participation.

Finally, this action also corrects a clerical error in the November 2018 Board Item 8-2, which requested an increase of \$245,000 to the existing agreement with IBI Group. That letter erroneously stated that the new not-to-exceed amount of the agreement with IBI Group was \$1,135,000, instead of the correct amount of \$1,745,000.

### **Summary**

This action amends an existing agreement with IBI Group to provide specialized technical support for preliminary design of upgrades to the BAS and final design of upgrades to AV systems at Metropolitan's Headquarters. See **Attachment 1** for the Allocation of Funds and **Attachment 2** for the Location Map.

### **Project Milestones**

February 2020 – Completion of design of upgrades to the audio/visual systems at Metropolitan's Headquarters.

June 2020 – Completion of preliminary design of upgrades to the BAS at Metropolitan's Headquarters Building

## Policy

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 51095, dated February 13, 2018, the Board authorized an agreement with IBI Group for a not-to-exceed amount of \$890,000 for specialized design services for physical security improvements at Metropolitan's Headquarters Building.

By Minute Item 51348, dated October 9, 2018, the Board authorized increase of agreement with IBI Group for a not-to-exceed amount of \$1.5 million for specialized design services for audio/visual upgrades at Metropolitan's Headquarters Building.

By Minute Item 51353, dated October 9, 2018, the Board appropriated a total of \$290 million for projects identified in the Capital Investment Plan for Fiscal Years 2018/19 and 2019/20.

By Minute Item 51386, dated November 6, 2018, the Board authorized award of a construction contract for seismic upgrades and initial stage of building improvements to Bernards Bros.; and authorized increase of \$245,000 to an agreement with IBI Group for technical support during construction of the initial phase of physical security improvements at Metropolitan's Headquarters Building.

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA because the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Public Resources Code Section 21065). Even if the proposed action is defined as a project under CEQA and the State CEQA Guidelines, the proposed action consists of preliminary and final design for modifications to existing public facilities with negligible or no expansion of use beyond that existing at the time of the lead agency's determination. Accordingly, the proposed action qualifies as a Class 1 Categorical Exemption (Section 15301 of the State CEQA Guidelines).

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Authorize an increase of \$700,000 to an agreement with IBI Group, for a new not-to-exceed total of \$2,445,000.

**Fiscal Impact:** \$975,000 in capital funds

**Business Analysis:** This option will increase operational reliability and efficiency of the Building Automation System at Metropolitan's Headquarters Building, and reduce the risk of unplanned outages of the building's mechanical systems. Additionally, this option will enhance the reliability of AV systems in the board and committee rooms at Metropolitan's Headquarters Building.

**Option #2**

Do not authorize an increase to an agreement with IBI Group for design of upgrades to the building systems at Metropolitan’s Headquarters Building.

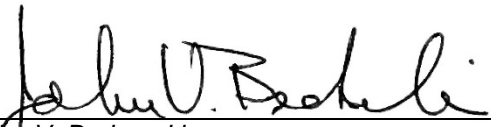
**Fiscal Impact:** None

**Business Analysis:** This option will not upgrade the Building Automation System at Metropolitan’s Headquarters Building and will forego an opportunity to reduce the risk of unplanned business disruptions. Additionally, this option would forego an opportunity to reduce the risk of disruption of AV system components and meet current lighting and cooling building code requirements.

**Staff Recommendation**

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Option #1

  
 \_\_\_\_\_ 9/23/2019  
 John V. Bednarski Date  
 Manager/Chief Engineer  
 Engineering Services

  
 \_\_\_\_\_ 9/27/2019  
 Jeffrey Nightlinger Date  
 General Manager

**Attachment 1 – Allocation of Funds**

**Attachment 2 – Location Map**

Ref# es12672447

### Allocation of Funds for Headquarters Building Automation System Upgrades

	<b>Current Board Action (Oct. 2019)</b>
Labor	
Studies & Investigations	\$ 115,000
Final Design	-
Owner Costs (Program mgmt., envir. doc.)	130,000
Materials & Supplies	-
Incidental Expenses	5,000
Professional/Technical Services	
IBI Group	500,000 <sup>1</sup>
Value Engineering Firm	75,000
Third Party Peer Review	75,000
Contracts	-
Remaining Budget	75,000
<b>Total</b>	<b>\$ 975,000</b> <sup>2</sup>

1. This amount does not reflect an additional increase of \$200,000 to the existing agreement with IBI Group for final design services to upgrade the audio/visual systems at Metropolitan's Board and Committee rooms. Funds to support this increased contracting authority were previously allocated.
2. This is the initial action to upgrade the building automation system at Metropolitan's Headquarters building. The total estimated cost to complete this project, including the funds allocated for the work described in this action, is anticipated to range from \$3 million to \$5 million.

# Distribution System

