



Metro

Los Angeles County  
Metropolitan Transportation  
Authority  
One Gateway Plaza  
3rd Floor Board Room  
Los Angeles, CA

## Board Report

File #: 2015-0215, File Type: Contract

Agenda Number: 39.

### CONSTRUCTION COMMITTEE JULY 16, 2015

**SUBJECT: GATEWAY LIGHTING RETROFIT PROJECT**

**ACTION: APPROVE USE OF DESIGN-BUILD CONTRACTING DELIVERY APPROACH  
FOR THE GATEWAY LIGHTING RETROFIT PROJECT**

### **RECOMMENDATION**

CONSTRUCTION COMMITTEE RECOMMENDED (5-0):

- A. finding that awarding design-build contracts pursuant to **Public Utilities Code Section 130242 (a)** will achieve private sector efficiencies in the integration of the design, project work, and components related to the construction and installation of energy efficient lights in Metro's Gateway Headquarters Building;  
  
**(REQUIRES TWO-THIRDS VOTE)**
- B. authorizing the Chief Executive Officer to award the competitively bid design-build contract to the lowest responsive, responsible bidder, pursuant to Public Utilities Code Section 130051.9 (c); and
- C. approving an increase of Contract Modification Authority (CMA) for Contract No. PS07643022 with Control Technologies to provide Building Management System upgrades in the amount of \$1,000,000, increasing the CMA from \$100,000 to \$1,100,000.

### **ISSUE**

Metro is authorized to enter into design-build contracts pursuant to Public Utilities Code Section 130242. This section requires that the Board make the finding set forth in Recommendation A.

The Metro Gateway Lighting Retrofit Project will remove existing recessed fluorescent light fixtures and replace them with new, energy efficient, LED light fixtures. This project is consistent with the

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intent and identified action to reduce energy use in our facilities as outlined in our Environmental Policy and Energy Conservation and Management Plan. A cost-benefit analysis of the Gateway Lighting Retrofit Project provides a cost and savings comparison between LED fixtures and fluorescent fixtures (see Attachment C).

The current Gateway building management system is proprietary therefore Control Technologies, Inc. must be part of the project team. As part of the project team, the control systems contractor must work with the design build contractor and be involved in the design, specification, installation, and commissioning of the lighting and the control components to ensure that the lighting controls will operate with the existing building management system.

## **DISCUSSION**

The primary benefit of the design-build process is a shortened project schedule where the design-builder is able to start construction while the design is being completed. Other possible benefits include additional efficiencies in project management, administration and coordination.

Utilization of a design-build process is allowed under Public Utilities Code Section 130242, which provides for award of a design-build contract to the lowest responsive and responsible bidder. As set forth above, awarding design-build contracts will achieve certain efficiencies in the projects, such as reducing project administration and management costs, and expediting project completion.

Approval of this action would allow staff to proceed with a solicitation utilizing the Design-Build Contracting Delivery Approach pursuant to Public Utilities Code Section 130242.

The project was selected for the Design-Build Contracting Delivery Approach based on the following considerations:

- A single point of responsibility for design and construction will increase the time and management efficiency on the implementation of the projects;
- Metro will have the benefit of an integrated team that provides engineering, construction management, and administrative resources, resulting in cost savings;
- Staff project development resources are limited, so more budgeted projects can be accomplished by adding design-build capability;
- Metro's design risks are shifted to Design-Builder, while changes related to design are minimized;
- The project requires standard or minimal design effort and it therefore more conducive to being implemented by design-build contractors with general engineering and contracting capacity.

The major cost savings on this project is controlling the use of electricity via the building management control systems. Controls will be installed that will monitor the lighting levels and reduce the lighting in all areas via these automatic controls. Thus the lighting control system must be compatible with the existing building systems. The major Gateway building systems are already controlled by the building management control system. The building management system is a computerized building-automation and energy management system consisting of thousands of automatic devices and controls for the building heating, ventilation, air conditioning and lighting. It is imperative that the new system not only support the controls necessary for the lighting project to be a success but it must communicate with the entire building system.

### **FINANCIAL IMPACT**

The FY16 funding for this project will come from Project Number 210802, Gateway Lighting Retrofit Project, in the amount of \$239,438 in Cost Center 8510, Construction Contracts/Procurement. Since this is a multi-year capital project, the cost center manager and Executive Director, Engineering & Construction will be responsible for budgeting in future years.

#### **Impact to Budget**

The source or funds for this project is the Sustainability Implementation Program funds which is a board approved annual allocation and is eligible to fund Bus and Rail Operations. No other source of funds were considered.

### **ALTERNATIVES CONSIDERED**

This project is needed to avoid increasing electricity rates. This work could be accomplished utilizing consultants to prepare separate designs or with designs prepared by staff for bid and construction. Staff does not recommend this approach. There are distinct and clear advantages to having a single contractor responsible for both design and construction, primarily in the avoidance of certain project management, staff, administration and coordination costs, as well as significant reductions in contract cost and overall project schedule. The scope and size of the project lend itself to the more streamlined design-build project delivery method.

### **ATTACHMENTS**

- A Procurement Summary
- B Contract Modification/Change Log
- C Cost Benefit Analysis for 5,000 2x4 Fixtures

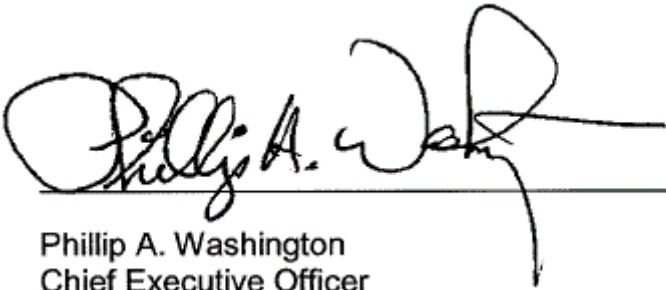
Prepared By:

Cris B. Liban, Executive Officer, Environmental Compliance and Sustainability (213) 922-2471

Reviewed By:

Ivan Page, Interim Executive Director Vendor/Contract Management, 213 922-6383

Bryan Pennington, Executive Director, Engineering & Construction, 213 922-7449



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Phillip A. Washington  
Chief Executive Officer

**ATTACHMENT A**

**PROCUREMENT SUMMARY  
GATEWAY BUILDING MANAGEMENT SYSTEM  
GATEWAY LIGHTING RETROFIT PROJECT**

1.	<b>Contract No.:</b> PS07643022			
2.	<b>Contractor:</b> Control Technologies			
3.	<b>Mod. Work Description:</b> Increase Contract Modification Authority			
4.	<b>Work Description:</b> Gateway Building Management System			
5.	<b>The following data is current as of :</b>	March 10, 2015		
6.	<b>Contract Completion Status:</b>			
	<b>Bids Opened:</b>	N/A	<b>Financial Status:</b>	
	<b>Contract Awarded:</b>	2/22/07	<b>Contract Award Amount:</b>	\$640,000.00
	<b>NTP:</b>	N/A	<b>Total of Modifications approved:</b>	\$1,389,345.00
	<b>Orig. Complete Date:</b>	2/21/17	<b>Pending Modifications (including this action:</b>	\$1,000,000.00
	<b>Current Est. Complete Date:</b>	2/21/17	<b>Current Contract Value (with this action):</b>	\$3,029,345.00
7.	<b>Contract Administrator:</b> Kenneth Takahashi		<b>Telephone Number:</b> (213) 922-1047	
8.	<b>Project Manager:</b> John Flores		<b>Telephone Number:</b> (213) 922-7770	

**A. Procurement Background**

In February 2007, sole source Contract No. PS07643022 was awarded to Yamas Controls Southern California, Inc. for a term of ten years, in the amount of \$640,000, for maintenance of the Gateway Building Management System. In January 2008, Yamas Controls Southern California, Inc. was acquired by Control Technologies.

Attachment B shows that four modifications have been issued to date to add work.

**B. Cost/Price Analysis**

The recommended price of any future changes will be determined to be fair and reasonable based upon cost analysis, technical evaluation, fact finding, and negotiations.

**C. Small Business Participation**

At the time of contract award, in February 2007, the Diversity and Economic Opportunity Department did not establish a Small Business Enterprise (SBE) goal for this procurement, as the Control Technologies System is proprietary. However, for this contract modification, there will be limited opportunities for supply equipment, contingent upon the equipment not voiding proprietary electrical warranties associated with the Gateway lighting work. Control Technologies made a 5% SBE commitment.

<b>Small Business Goal</b>	<b>N/A</b>	<b>Small Business Commitment</b>	<b>5% SBE</b>
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	<b>SBE Subcontractor</b>	<b>% Commitment</b>
1.	Global Electric	5%
	<b>TOTAL</b>	<b>5%</b>

**ATTACHMENT B****CONTRACT MODIFICATION/CHANGE ORDER LOG  
GATEWAY BUILDING MANAGEMENT SYSTEM****GATEWAY LIGHTING RETROFIT PROJECT**

<b>Mod no.</b>	<b>Description</b>	<b>Status</b>	<b>Cost</b>
1	Add Trend Log	Approved	\$6,000.00
2	Equipment Upgrades	Approved by Board	\$1,153,845.00
3	Additional Contract Authority	Approved	\$94,000.00
4	Additional Contract Authority	Approved by Board	\$135,500.00
5	Increase Contract Modification Authority	Pending	\$1,000,000.00
Subtotal – Approved Modifications			\$1,389,345.00
Subtotal – Pending Changes/Modifications			\$1,000,000.00
<b>Subtotal Totals: Mods. + Pending Changes/Modifications</b>			\$2,389,345.00
Previously Authorized CMA			\$100,000.00
CMA Necessary to Execute Pending Changes/Mods + Possible Claims			\$1,000,000.00
<b>Total CMA including this Action</b>			\$1,100,000.00
<b>CMA Remaining for Future Changes/Mods after this Action</b>			\$1,000,000.00

## ATTACHMENT C

### Gateway Lighting Retrofit Project - Cost-Benefit Analysis for 5,000 2x4 Fixtures

Cost of Fixtures & Installation	Return on Investment (years)	Location / Area		Existing Conditions	Conditions After Retrofits	Projected Annual Savings
\$1,044,808.20	4.276	Gateway Office Spaces (2) T8, low watt	Energy Usage (kWh)	3,248,708	1,399,833	1,848,875
			Operating Costs	\$448,438.05	\$204,090.30	\$244,347.75
			GHGe (metric tons)	1,814.87	782.01	1,032.86
\$1,426,426.20	4.873	Gateway Office Spaces Volumetric LED	Energy Usage (kWh)	3,248,708	990,845	2,257,862
			Operating Costs	\$448,438.05	\$155,711.24	\$292,726.80
			GHGe (metric tons)	1,814.87	553.53	1,261.34

#### Energy and Operational Cost Savings Over the Operational Life

Year	Energy Cost (per kWh)	Existing	Option A - (2) T8, low watt		Option B - Volumetric LED	
			Cost	Savings	Cost	Savings
2015	\$0.125	\$448,438	\$204,090	\$244,348	\$155,711	\$292,727
2016	\$0.132	\$470,952	\$213,845	\$257,106	\$162,672	\$308,279
2017	\$0.139	\$494,691	\$224,129	\$270,562	\$170,008	\$324,684
2018	\$0.140	\$499,419	\$226,220	\$273,199	\$171,544	\$327,875
2019	\$0.142	\$504,192	\$228,331	\$275,861	\$173,095	\$331,097
2020	\$0.143	\$509,010	\$230,462	\$278,548	\$174,659	\$334,351
2021	\$0.145	\$513,874	\$232,612	\$281,262	\$176,237	\$337,637
2022	\$0.146	\$518,785	\$234,782	\$284,003	\$177,830	\$340,955
2023	\$0.147	\$523,743	\$236,973	\$286,770	\$179,437	\$344,306
2024	\$0.149	\$528,748	\$239,184	\$289,564	\$181,058	\$347,690
2025	\$0.150	\$533,801	\$241,415	\$292,386	\$182,694	\$351,107
2026	\$0.152	\$538,902	\$243,668	\$295,235	\$184,344	\$354,558
2027	\$0.153	\$544,053	\$245,941	\$298,111	\$186,010	\$358,043
2028	\$0.155	\$549,252	\$248,236	\$301,016	\$187,690	\$361,562
2029	\$0.157	\$554,502	\$250,552	\$303,949	\$189,386	\$365,116
2030	\$0.158	\$559,802	\$252,890	\$306,911	\$191,097	\$368,705
2031	\$0.160	\$565,152	\$255,250	\$309,902	\$192,824	\$372,329
2032	\$0.161	\$570,555	\$257,632	\$312,922	\$194,566	\$375,988
2033	\$0.163	\$576,008	\$260,037	\$315,972	\$196,324	\$379,684
2034	\$0.165	\$581,515	\$262,464	\$319,051	\$198,098	\$383,416
2035	\$0.166	\$587,074	\$264,913	\$322,161	\$199,889	\$387,185
2036	\$0.168	\$592,687	\$267,386	\$325,301	\$201,695	\$390,991
2037	\$0.169	\$598,353	\$269,882	\$328,471	\$203,518	\$394,835
2038	\$0.171	\$604,074	\$272,402	\$331,673	\$205,358	\$398,717
2039	\$0.173	\$609,851	\$274,945	\$334,906	\$207,214	\$402,636
2040	\$0.175	\$615,683	\$277,512	\$338,171	\$209,088	\$406,595
<b>TOTAL</b>		<b>\$14,193,116</b>	<b>\$6,415,756</b>	<b>\$7,777,360</b>	<b>\$4,852,047</b>	<b>\$9,341,069</b>

#### Installation, Annual Lamp Replacement and Annual Maintenance Costs

	Total Existing	(2) T8, low watt usage	(2) T8, low watt savings	Volumetric LED usage	Volumetric LED savings
Fixtures/Installation	\$0	\$1,044,808		\$1,426,426	
Lamps/Maintenance	\$43,011.74	\$29,396.55	\$13,615.20	\$32,057.54	\$10,954.21
<b>TOTAL</b>	<b>\$43,012</b>	<b>\$1,074,205</b>		<b>\$1,458,484</b>	
Power Usage (kWh/yr)	Existing Lighting (kWh) 3,248,708	Consumption (kWh) 1,399,833	Savings (kWh) 1,848,875	Consumption (kWh) 990,845	Savings (kWh) 2,257,862



**ATTACHMENT B****CONTRACT MODIFICATION/CHANGE ORDER LOG  
GATEWAY BUILDING MANAGEMENT SYSTEM****GATEWAY LIGHTING RETROFIT PROJECT**

<b>Mod no.</b>	<b>Description</b>	<b>Status</b>	<b>Cost</b>
1	Add Trend Log	Approved	\$6,000.00
2	Equipment Upgrades	Approved by Board	\$1,153,845.00
3	Additional Control System Maintenance	Approved	\$94,000.00
4	Add Union Station East Complex	Approved by Board	\$135,500.00
5	LED Lighting Retrofit Project	Pending	TBD
Subtotal – Approved Modifications			\$1,389,345.00
Subtotal – Pending Changes/Modifications			\$1,000,000.00
<b>Subtotal Totals: Mods. + Pending Changes/Modifications</b>			\$2,389,345.00
Previously Authorized CMA			\$100,000.00
CMA Necessary to Execute Pending Changes/Mods + Possible Claims			\$1,000,000.00
<b>Total CMA including this Action</b>			\$1,100,000.00
<b>CMA Remaining for Future Changes/Mods after this Action</b>			\$1,000,000.00

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Cost of Fixtures & Installation	Return on Investment (years)	Location / Area		Existing Conditions	Conditions After Retrofits	Projected Annual Savings
\$1,044,808.20	4.276	Gateway Office Spaces (2) T8, low watt	Energy Usage (kWh)	3,248,708	1,399,833	1,848,875
			Operating Costs	\$448,438.05	\$204,090.30	\$244,347.75
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			Operating Costs	\$448,438.05	\$155,711.24	\$292,726.80
			GHGe (metric tons)	1,814.87	553.53	1,261.34

#### Energy and Operational Cost Savings Over the Operational Life

Year	Energy Cost (per kWh)	Existing	Option A - (2) T8, low watt		Option B - Volumetric LED	
			Cost	Savings	Cost	Savings
2015	\$0.125	\$448,438	\$204,090	\$244,348	\$155,711	\$292,727
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#### Installation, Annual Lamp Replacement and Annual Maintenance Costs

	Total Existing	(2) T8, low watt usage	(2) T8, low watt savings	Volumetric LED usage	Volumetric LED savings
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<b>TOTAL</b>	<b>\$43,012</b>	<b>\$1,074,205</b>		<b>\$1,458,484</b>	
Power Usage (kWh/yr)	Existing Lighting (kWh) 3,248,708	Consumption (kWh) 1,399,833	Savings (kWh) 1,848,875	Consumption (kWh) 990,845	Savings (kWh) 2,257,862

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Lamps/Maintenance	\$43,011.74	\$29,396.55	\$13,615.20	\$32,057.54	\$10,954.21
<b>TOTAL</b>	<b>\$43,012</b>	<b>\$1,074,205</b>		<b>\$1,458,484</b>	
Power Usage (kWh/yr)	Existing Lighting (kWh) 3,248,708	Consumption (kWh) 1,399,833	Savings (kWh) 1,848,875	Consumption (kWh) 990,845	Savings (kWh) 2,257,862