

**Board Report**

File #: 2017-0132, **File Type:** Contract

Agenda Number: 51.

REVISED
REGULAR BOARD MEETING
JUNE 22, 2017

SUBJECT: METRO BLUE LINE SIGNALING REHABILITATION AND OPERATIONAL IMPROVEMENTS PROJECT

ACTION: AWARD CONTRACT

RECOMMENDATION

AUTHORIZE the CEO to award Contract No. C1081 to Mass Electric Construction Co/Parsons, the selected best value contractor to design and construct the **Blue Line State of Good Repair signaling rehabilitation and operational improvements** for a contract value of \$81,513,000.

ISSUE

The existing MBL light rail transit system is over 25 years old. Signaling and Overhead Catenary Systems (OCS) are in need of rehabilitation as they are essential subsystems for safe and effective light rail operations. Currently, the MBL is operating with a limited number of interlockings, which are trackwork and signaling components that allow trains to cross from one track to another during planned maintenance or in the event that there is a disabled train. With the existing six interlockings between Washington Station and Willow Station, some segments of the MBL are limited to 30 - 40 minute headways during emergency situations. The addition of four new interlockings is expected to improve single tracking headways to approximately 15 - 20 minutes and allow a better overall emergency operation response.

Finally, the MBL Division 11 Yard is operating with an obsolete signal system that is very limited and relies on manual control. The Yard signal system portion of this project will update the signaling of Division 11 and provide a more efficient and safe yard operation.

BACKGROUND

As a State-of-Good-Repair project, Metro Blue Line Signaling Rehabilitation and Operational Improvements (Signal/Interlocking/OCS) Project will:

1. Replace all vital relays
2. Install four additional interlockings and one siding at 95th Street
3. Install the associated Solid State Interlockings (SSI) and the associated communications

equipment

4. Install new frequency converters for the train detection sub-system
5. Redesign the switch between the two redundant power supplies in the Signaling bungalows to address recurring loss of signal power issues
6. Replace code transmitter relays for the speed control sub-system
7. Replace the OCS in the Long Beach loop and Downtown Los Angeles
8. Upgrade the Signal system in the Division 11 yard

These activities will improve single tracking capability that take place during planned maintenance or unplanned incidents. In addition, the additional siding track near 95th Street will provide train storage for more operational flexibility.

The OCS contact wires operating in sections in downtown Los Angeles and Long Beach have experienced significant wear over time, resulting in an increasing probability of a wire failure and service disruptions. Replacing and re-tensioning these wires will provide a more reliable and safer operation. The OCS in the 7th Street/Metro Center tunnel is also approaching the end of its useful life. The replacement of the existing wire system with new Overhead Contact Rail (OCR) system will reduce future maintenance needs and will support the Regional Connector tunnel OCR which is currently under construction.

The new train control system in the Division 11 Yard will provide efficient and safe yard operations for Metro staff. The control tower will have the ability to route trains remotely and monitor MBL operation more easily.

DISCUSSION

Scope and Use of Advanced Technologies

1. This scope enables the use of advanced technologies. For example Solid State Interlocking (SSI) technologies for the control of the interlockings will be used instead of relays. Solid state electronic equipment is much more reliable due to the use of electronic circuits and components. SSI technologies have a much lower failure rate than relays and a longer life, which improves system reliability and is more cost effective in the long term. Finally the use of SSI technologies will align the MBL with the Expo line or the Regional Connector project in terms of technologies between projects to improve the overall efficiency and effectiveness of maintenance.
2. Due to the use of more advanced technologies for the interlockings, one of the crossovers added to the project requires a new bungalow to house the new train control and communication

equipment. The existing Metro Right-of-Way is not adequate to add a new bungalow; the project is proposing to purchase a small property adjacent to the MBL tracks.

3. The scope of the project also addresses reliability. The existing MBL Signaling bungalows currently house 3,500 vital relays. These relays are 25 years old and approaching the end of their useful life. Therefore, the replacement of all 3,500 vital relays is included in the scope of this project to improve reliability.
4. The project is also replacing the code generators of the existing signal system. The existing code generators required urgent replacement. The cost of procurement and installation for the complete code generator replacement is included in the scope of this project.
5. Finally in order to minimize the disruptions of Operations during the construction of the project on the Blue Line, it is critical to have Metro Inspectors and Flagmen support the construction of the project. Not only is this a new CPUC regulation, but it is also a direct experience from the success of the MBL stations enhancements project. Metro Inspectors and Flagmen are needed to grant contractors access to Metro equipment rooms and equipment and tracks, including the Signaling bungalows. They also assist with shutting down the traction power when appropriate, and authorizing and inspecting all contractor activities to ensure the safety of our system.

FINANCIAL IMPACT

The amount of this contract action is \$81,513,000. Funding for the FY 18 effort and ~~approval for an \$118,900,000 Life of Project budget are included in the proposed~~ were approved by the 2017 May Board item 30 FY18 budget board report ~~scheduled for consideration at the May Finance and Budget and regular board meeting.~~

It is proposed that since this is a multi-year project, the Project Manager, Cost Center Manager, and Chief Officer of Program Management will ensure that costs will be budgeted in future years.

Impact to Budget

The source of funds for this procurement will come from Prop A 35%, TDA Article 4, Measure M 2% and California Cap and Trade Transit and Intercity Rail Capital Program (TIRCP) grant funding.

ALTERNATIVES CONSIDERED

The Board may choose not to award this contract. This alternative is not recommended because rejecting this project would have the MBL continue to operate on the aging signaling and catenary system equipment as well as the difficulties of providing adequate service during single tracking for routine maintenance and in the event of an incident. The aging MBL systems will

require additional maintenance and still suffer more breakdowns, which would lead to less reliable operations.

NEXT STEPS

Upon approval of the contract award, staff will work with Vendor/Contract Management to issue a Notice to Proceed for Contract C1081 MBL Signaling Rehabilitation and Operational. It is anticipated that the project will be completed within 36 months from issuance of the Notice to Proceed.

ATTACHMENTS

Attachment A - Sources and Uses Table

Attachment B - Procurement Summary

Attachment C - DEOD Summary

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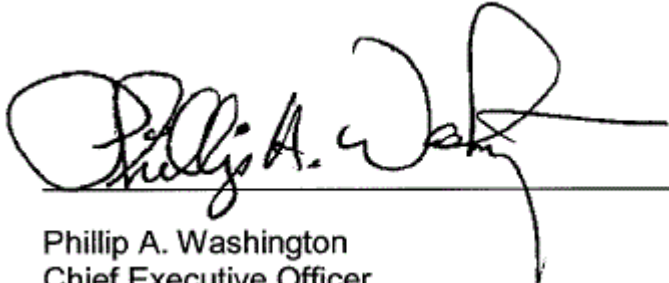
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Phillip A. Washington
Chief Executive Officer

Sources and Use Table

Construction	FY 18	FY 19	FY 20	Total
Construction Contract Bid (C1081)	\$ 16,302,600	\$ 32,605,200	\$ 32,605,200	\$ 81,513,000
Construction Cost	\$ 16,302,600	\$ 32,605,200	\$ 32,605,200	\$ 81,513,000

Sources and Uses	FY 18	FY 19	FY 20	Funding
California Cap and Trade (TIRCP)	\$ 16,302,600	\$ 22,191,400	\$ -	\$ 38,494,000
Additional Funding (Prop A 35% TDA Article 4, and Measure M 2%)		\$ 10,413,800	\$ 32,605,200	\$ 43,019,000
Total Funding	\$ 16,302,600	\$ 32,605,200	\$ 32,605,200	\$ 81,513,000

PROCUREMENT SUMMARY

**METRO BLUE LINE SIGNAL SYSTEM REHABILITATION PROJECT-
DESIGN/BUILD / CONTRACT NUMBER C1081**

1.	Contract Number: C1081	
2.	Recommended Vendor: Mass Electric Construction Co.	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: 3/21/16	
	B. Advertised/Publicized: 3/11/16	
	C. Pre-Proposal Conference: 4/11/16	
	D. Proposals Due: 2/21/17	
	E. Pre-Qualification Completed: 10/27/16	
	F. Conflict of Interest Form Submitted to Ethics: 11/15/16	
	G. Protest Period End Date: 4/24/17 5/24/17	
5.	Solicitations Picked up: 50	Bids/Proposals Received: 2
6.	Contract Administrator: Rafael Vasquez	Telephone Number: (213) 418-3036
7.	Project Manager: James Wei	Telephone Number: (213) 922-2758

A. Procurement Background

This Board Action is to approve the award of a design/build “Best Value” procurement issued in support of the Metro Blue Line Signal System Rehabilitation Project. Contract No. C1081 will provide management, coordination, professional services, labor, equipment, materials and all other services necessary to perform the final design and construction of the Metro Blue Line Signal System Rehabilitation. Board approval of contract awards are subject to resolution of any properly submitted protest(s).

The Work includes the addition of four new interlockings, one siding track, installation of new Overhead Catenary System (OCS), replacements of existing OCS contact wire, modifications to existing mainline Automatic Train Control System, and modifications to the train control system in the MBL Yard (Division 11). The Contract type is a firm fixed price.

A Request for Qualifications (RFQ)/Request for Proposals (RFP) was issued on March 21, 2016. A pre-proposal conference was held on April 11, 2016, in the Board Room with representatives of approximately 11 firms in attendance.

The RFQ/RFP implemented a two-step negotiated procurement in accordance with California Public Contract Code §22160-22169 and in accordance with Metro’s Acquisition Policy. The first phase of the procurement was a request for Statement of Qualifications (SOQ). A prequalification evaluation team evaluated the SOQs. Three responsive SOQs were received on June 17, 2016.

The three firms that met the RFQ requirements, were designated as prequalified parties, and were invited to submit proposals in response to the second RFP phase of the solicitation.

- Mass Electric Construction Company
- Balfour Beatty Infrastructure Inc.
- C3M/Clark, a Joint Venture

The prequalified firms submitted technical and commercial questions which were recorded and reviewed by Metro staff. Formal written answers to 557 questions were provided to the prequalified firms and other planholders.

Twenty one amendments were issued during the solicitation and evaluation process:

- Amendment No. 1, issued on March 24, 2016, changed Pre-Proposal Conference Room location, added a technical/outreach meeting, and revised Scope of Work;
- Amendment No. 2, issued on March 28, 2016, provided missing Project Definition Documents references such as Metro's Rail Design Criteria Drawings, Rail Directive Drawings, Rail Standard Drawings, Signage Standards, and Wayside Signage Directive Drawings;
- Amendment No. 3, issued on April 1, 2016, extended the SOQs due date to May 5, 2016 and extended the Proposal due date to July 7, 2016;
- Amendment No. 4, issued on April 5, 2016, clarified contract language, including revisions to Contract Payment Provisions to Subcontractors;
- Amendment No. 5, issued April 20, 2016, extended the SOQ due date to May 19, 2016, extended the Proposal due date to July 21, 2016, and clarified contract language, including revisions to General Conditions GC-51;
- Amendment No. 6, issued on April 27, 2016, extended the SOQs due date to June 2, 2016, extended the Proposal due date to August 18, 2016, and revised Instructions to Proposers, Supplemental Instructions to Proposers and Submittal Requirements;
- Amendment No. 7, issued on May 5, 2016, provided Metro Blue Line As-builts reference documents information;
- Amendment No. 8, issued on May 18, extended the SOQ due date to June 9, 2016, extended the Proposal due date to August 25, 2016, and clarified contract language, by adding CP-5A Voluntary Payment to Subcontractors Initiative provision and revising the Scope of Work;
- Amendment No. 9, issued on June 3, 2016, extended the SOQs to June 17, 2016, revised Contract Administrator contact information and clarified contract language, including revisions to Non-Disclosure Agreement and Special Provisions Alternate Proposals;
- Amendment No. 10, issued on June 3, 2016, clarified Contract Administrator phone number;
- Amendment No. 11, issued on June 13, 2016, clarified the SOQs due date;

- Amendment No. 12, issued on June 22, 2016, extended the Proposal due date to September 15, 2016, clarified contract language, including revisions to the Schedule of Quantities and Prices, the qualifications and functions of key personnel, and the Scope of Work;
- Amendment No. 13, issued on July 19, 2016, clarified Proposal Documents and revised Qualifications of Key Personnel and Functions;
- Amendment No. 14, issued August 12, 2016, extended Proposal due date to September 29, 2016, revised Contract Administrator contact information, clarified contract language and revised the Scope of Work;
- Amendment No. 15, issued August 29, 2016, extended Proposal due date to October 13, 2016, revised submittal requirements, revised Schedule of Quantities and Prices form, added SP-32 Limitation of Liability Arising from Contractor's Performance, added Dispute Resolution provisions, and clarified Contract language;
- Amendment No. 16, issued September 23, 2016, clarified evaluation criteria, and revised Submittal Requirements, Schedule of Quantities and Prices Forms, and the Scope of Work;
- Amendment No. 17, issued September 28, 2016, extended the Proposals due date to October 20, 2016, and revised Regulatory Requirements and Federal Certificates such as Buy America, Compliance with Federal Lobbying Requirements, and revised Schedule of Quantities and Prices forms;
- Amendment No. 18, issued October 4, 2016, clarified the Schedule of Quantities and Prices forms;
- Amendment No. 19, issued October 7, 2016, removed Federal Requirement Certificates such as Compliance with 49 CFR part 655 , Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations, and Certificate of Debarment, Suspension and Other Responsibility Matters;
- Amendment No. 20, issued on December 29, 2016, requested from both Proposers a Revised Proposal with a due date of February 7, 2017. The amendment deleted Washington Siding and Del Amo Scope of Work, revised Schedule of Quantities and Prices Forms and reduced SBE goal requirements;
- Amendment No. 21, issued on January 11, 2017, extended the Proposals due date to February 21, 2017, revised Schedule of Quantities and Prices forms and requested validity period of the revised Proposals.

Initial proposals were received on October 20, 2016 from the following firms:

1. Balfour Beatty Infrastructure, Inc.
2. Mass. Electric Construction Co.

Only two of the three pre-qualified firms submitted proposals. C3M/Clark Joint Venture did not submit a proposal because, among some of their reasons cited, there were unfavorable contract terms and conditions to the Contractor, expensive insurance coverage requirements for subcontractor and many unknown risks associated with the construction.

Mass. Electric Construction Co. submitted an alternative proposal in addition to a base proposal.

Final revised proposals were received on February 21, 2017, from both Proposers.

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from Metro Rail Operations, Metro Facilities Engineering Operations, and Systems Engineering conducted a comprehensive and robust evaluation of the proposals received.

The PET performed a detailed evaluation of the proposals in accordance with the factors and sub-factors set forth in the RFP to assign a score and ranking. The evaluation considered all technical and price factors defined in the RFP and Source Selection Plan.

The proposals were evaluated based on the following evaluation criteria and weights:

- Project Management 40 percent
- Technical Approach 30 percent
- Price 30 percent
- A Prompt Payment to Subcontractors Initiative (Bonus) 5 percent

The Proposers could opt for prompt payment initiative, noted above, that requires the prime Contractor to pay its first tier subcontractors for work completed prior to submitting its monthly billing to Metro. This triggers the cascading of earlier payments where each subcontractor must make payment to their subcontractors of undisputed amounts within seven days of having received payment. In return, Metro provides terms of Net 21 days payment of undisputed amounts to the Contractor.

Each Proposer received written Requests for Clarification regarding topics such as construction schedule, cutover and staging plans.

Each proposing team was invited to make an oral presentation to the PET for the purpose of clarifying their proposal and demonstrating their understanding of Metro's requirements, thus allowing the PET to refine technical scoring. The presentation meeting format, the amount of time allowed, and general questions asked were standardized.

Following a review of the initial proposals and oral presentations both proposals were determined to be within the competitive range and the PET and the Director of Contract Administration of Construction held discussions with each Proposer between November 28, 2016, and December 1, 2016, to address potential deficiencies, understand concerns about risk, and review assumptions taken in relation to their price proposal.

Discussions confirmed each Proposer's understanding of the scope and appropriate approaches and plans to complete the scope of work. After concluding discussions with the Proposers, Metro issued amendments Nos. 20 and 21. Amendment No. 20 deleted major scope of work for the Washington Siding and related facilities, and Division 11 Yard Train Control System was removed from the Option Schedule and included in the Base Work. This major change in scope of work required Metro to request both Proposers to submit revised Proposals. Amendment No. 21 extended the proposals due date to February 21, 2017, and provided revised Schedule of Quantities and Prices forms.

Mass Electric Construction Co. elected not to submit a Revised Alternative Proposal. Both Proposers elected to participate in the Voluntary Payment to Subcontractor Initiative per the RFP requirements.

Qualifications Summary of Firms within the Competitive Range

Mass Electric Construction Co. (MEC)

Mass Electric Construction Co. is the design-builder and general contractor, Parsons Transportation Group is the principal engineer and Architect of Record. MEC has based its operations in Los Angeles since 1987. MEC is the installer of the original Blue Line Signal System. Other projects for Metro include the Green Line, Red Line, Gold Line, both Expo Line Extensions, Metro Gold Line Foothill Extension Phase 2A, MBL Pedestrian and Swing Gates, and the Regional Connector.

Parsons is headquartered in Pasadena, CA and is a full-service engineering firm providing services and contract deliveries to transportation agencies and railroads for more than 80 years including Metro. Parsons has been consistently ranked in the top 10 transportation design firms by ENR in the past nine years. MEC and Parsons have worked together on 15 projects.

Balfour Beatty Infrastructure, Inc.(BB)

BB is the Design-Build contractor. WSP/Parsons Brinckerhoff is the lead designer and principal engineer, Wabtec Integrated Systems, Inc. is the train control, communications, signal supplier.

WSP/PB is the largest provider of fixed rail infrastructure globally. BB provides construction and maintenance services for numerous rails projects involving grade crossings, signals, and communications systems. BB's work for Metro includes the Gold Line Eastside Extension - trackwork, and OCS Expo Line Phase 1 LRT Design-Build trackwork, and dual mainline track.

WSP/PB for the past 35 years has supported LACTMA in the planning, designing, and constructing of its rail system. WSP/PB has provided planning, engineering, and/or program management services including the Pasadena Gold Line LRT, Gold

Line Eastside Extension LRT, Westside Extension Subway, Regional Connector LRT and Exposition Line.

Wabtec has extensive engineering experience and specializes in performing systems, signals, crossings and communications engineering services.

Evaluation Outcome

Based on a thorough evaluation of the proposals, as performed and determined by the Proposal Evaluation Team, the Mass Electric Construction Co. proposal offers the “Best Value” and is the most advantageous to Metro.

Mass Electric Construction Co. demonstrated strengths in factors and sub-factors under Project Management and Technical Approach of Proposer’s capabilities, skill and experience, management approach, risk management, cutover and staging plan. MEC was the original installer of the original Metro Blue Line Signal System which is both a benefit to Metro, as well as a fair competitive advantage for MEC.

MEC provided a thorough and detailed cutover plan for connecting the project to the existing rail system. In addition, MEC developed a set of preliminary plan at 35% design level which is a benefit to Metro and reflects upon MEC in their thorough knowledge of the project, numerous studies performed and construction approach.

The final scores and ranking of the proposals is summarized in the table below.

Final Evaluation Scoring

1	Firm	Average Score	Factor Weight	Weighted Avg. Score	Rank
2	Mass Electric Construction Co.				
3	Project Management	89.25	40.00%	35.70	
4	Technical Approach	88.60	30.00%	26.58	
5	Price	100.00	30.00%	30.00	
6	Voluntary Payment to Subcontractors Initiative*	100.00	5.00%	5.00	
7	Total		105.00%	97.28	1
8	Balfour Beatty Infrastructure, Inc.				
9	Project Management	89.63	40.00%	35.85	
10	Technical Approach	87.37	30.00%	26.21	
11	Price	36.63	30.00%	10.99	
12	Voluntary Payment to Subcontractors Initiative*	100.00	5.00%	5.00	
13	Total		105.00%	78.05	2

All Scores rounded to the second decimal.

*Proposers received full credit.

C. Cost/Price Analysis

A line by line proposal pricing evaluation was performed, with certain line items of each proposal being identified as of interest. The line items of interests were the same for each Proposer. The respective line items were addressed during the commercial and technical discussions with Proposers.

The price of the recommended award is determined to be fair and reasonable based on adequate price competition and comparison to the independent cost estimate which was submitted concurrently with the proposals.

	Proposer Name	Total Price Proposal ¹	Metro ICE ²	Award Price ³
1.	Mass Electric Construction Co.	\$84,856,283	\$74,152,855	\$81,513,000
2.	Balfour Beatty Infrastructure, Inc.	\$237,603,811		\$212,630,000

Note¹: The Total Price Proposal includes the Base Work, Provisional Sums, Delay Compensation, Life Cycle Costs, and Unit Prices.

Note²: The Independent Cost Estimate (ICE) amounts are submitted before the due date and opened concurrently with the other Proposals.

Note³: The Award Price only includes Base Work and Provisional Sums.

D. Background on Recommended Contractor

Mass Electric Construction Co. team includes Parsons Transportation Group, Inc. and B & C Transit, Inc. MEC has based operations in Los Angeles since 1987. MEC was the installer of the original Blue Line Signal System. Other projects for Metro include Green Line, Red Line, Gold Line, both Expo Line Extensions, Metro Gold Line Foothill Extension Phase 2A, MBL Pedestrian and Swing Gates, and the Regional Connector.

Parsons is headquartered in Pasadena, CA and is a full-service engineering firm providing services and contract deliveries to transportation agencies and railroads for more than 80 years including Metro. Parsons has been consistently ranked in the top 10 transportation design firms by ENR in the past nine years. MEC and Parsons have worked together in 15 projects.

B & C has completed the Foothill Extension Phase 2A and Expo Phase 2 projects and is currently contracted to MEC on the Regional Connector.

DEOD SUMMARY

**METRO BLUE LINE SIGNAL SYSTEM REHABILITATION PROJECT –
DESIGN/BUILD / C1081**

A. (1) Small Business Participation - Design

The Diversity and Economic Opportunity Department (DEOD) established a 15% goal, inclusive of a 12% Small Business Enterprise (SBE) goal and 3% Disabled Veteran Business Enterprise (DVBE) goal for Design. Mass. Electric Construction made a 12% SBE and 3% DVBE commitment.

Small Business Goal	12% SBE & 3% DVBE	Small Business Commitment	12% SBE & 3% DVBE
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	SBE Subcontractors	% Committed
1.	Wagner Engineering & Survey Inc.	1.36%
2.	JM Fiber Optics	2.94%
3.	Fariba Nation Consulting	7.70%
	Total Commitment	12.00%

	DVBE Subcontractors	% Committed
1.	MA Engineering	3.00%
	Total Commitment	3.00%

(2) Small Business Participation - Construction

The Diversity and Economic Opportunity Department (DEOD) established a 15% goal, inclusive of a 12% Small Business Enterprise (SBE) goal and 3% Disabled Veteran Business Enterprise (DVBE) goal for Construction. Mass. Electric Construction made a 12% SBE and 3% DVBE commitment.

Small Business Goal	12% SBE & 3% DVBE	Small Business Commitment	12% SBE & 3% DVBE
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	SBE Subcontractors	% Committed
1.	TSG Enterprises Inc. dba The Solis Group	0.21%
2.	TBD	11.79%
	Total Commitment	12.00%

	DVBE Subcontractors	% Committed
1.	TBD	3.00%
	Total Commitment	3.00%

B. Contracting Outreach and Mentoring Plan

To be responsive to DBE requirements, Mass. Electric Company was required to submit a DBE Contracting Outreach and Mentoring Plan (COMP), which included the minimum requirement to apply 25% of the total DBE commitment dollars for Design and 15% of the DBE commitment dollars for Construction for participation in the mentor protégé program.

C. Project Labor Agreement/Construction Careers Policy (PLA/CCP)

The PLA/CCP requires that contractors commit to meet the following targeted hiring goals for select construction contracts over 2.5 million dollars:

Non-Federally Funded Projects		
Community / Local Area Worker Goal	Apprentice Worker Goal	Disadvantaged Worker Goal
40%	20%	10%

D. Prevailing Wage Applicability

Prevailing Wage requirements are applicable to this project. DEOD will monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

E. Living Wage Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.