



## Board Report

File #: 2019-0495, File Type: Informational Report

Agenda Number:

### CONSTRUCTION COMMITTEE JULY 18, 2019

**SUBJECT: OFFICE OF THE INSPECTOR GENERAL  
CHANGE ORDER/MODIFICATION CONSTRUCTION SPOT CHECKS**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

Receive and File Office of the Inspector General Change Order/Modification Construction Spot Check Report

#### **ISSUE**

On January 25, 2018, the Metro Board directed the Office of the Inspector General (“OIG”) to conduct random spot checks on the projects listed in the quarterly program management report to ensure that the delegation of authority to approve construction Change Orders policy is performing in the manner desired by the Board of Directors.

#### **BACKGROUND**

This quarters OIG’s Spot Check Program (“Spot Checks) focuses on approved Change Orders and Modifications that exceed \$500,000 dollars. The four Change Orders in this report were selected from the July 2019 Program Management Major Project Status Report (File # 2019-0494), covering March 1 to May 31 2019. The information for the Spot Checks was collected from the Program Management Information System (PMIS) which is the department’s database system. Also, in-person and telephonic interviews were conducted with Metro Program Management, Project Control, and Procurement staff from each individual project office.

We found that all four of the Change Orders in this report were negotiated and executed more expeditiously than would have occurred pursuant to the former Board approval process, and all four were approved faster with the new delegation of authority. In addition all four Change Orders were negotiated at lower cost than the contractors’ proposed price. This quarter’s Spot Checks of Change Orders/Modifications found the delegation of authority has resulted in:

- A negotiated amount that was reasonable for the work to be done,
- Enabled the contractor to immediately order parts and materials, reducing delay.
- Consultant having no overlap in schedule and was able to continue working, and
- Zero Construction delay costs were incurred.

Each Spot Check summarizes the following areas:

- Introduction of Change Order/Modification
- Facts of Change Order (charts and pictures shown on Attachment A)
- Scope of Work
- Budget
- Schedule: Time to Execute Change Order
- Recommendations

Metro's Program Control department will provide responses to the recommendations in this report to the OIG Spot Checks within 30 days after this Board report. Attachment B, included in this July report, is a separate spreadsheet of recommendations and responses.

## **DISCUSSION**

### **I. Spot Checks Performed in this Quarter**

#### **A. Spot Check #1 - Crenshaw/LAX Transit Project**

This OIG Spot Check report concerns the Crenshaw/LAX Transit Corridor Project (Contract C0988 MOD-00426), Irrigation Water Meters, Park Mesa Medians.

#### **Facts of Change Order**

See Attachment A Spot Check #1 chart.

#### **Summary #1**

**Scope of Work** - This change order came as a request from Los Angeles Board of Public Works. The original scope of work provided for the medians at Park Mesa will be hardscaped with stripes, but during the City review it requested to have landscaping at the medians. Typically Los Angeles Department of Water and Power (LADWP) performs the work of tapping into the main water line and running water service to the new meter would be paid for by Metro, when Metro is requesting the work. However LADWP did not have schedule availability so the Crenshaw contractor was requested to submit a cost proposal (via their subcontractor) to Metro to perform the work. Work includes tapping into the water main, running 15 water services to 15 new water meters, to 15 water pipes to the irrigation project, which provides water to the new proposed landscaping.

**Budget** -. This Modification was negotiated and the award is \$776,000. The contractor's proposal was \$899,819 and the ICE was \$475,120. The award amount was \$123,819 under or 13.76% less than the contractor's proposal. The negotiated amount was \$300,880 over or 63% more than the ICE.

**Schedule** - The new delegation process was utilized for this Modification which was executed on June 3, 2019. The agreed upon scope occurred on Feb.15, 2019 but was not submitted until May 9, 2019. Using the June V/CM submission date, this Change Order would have gone to the July Board agenda. The scenario of utilizing the Board for approvals on change orders would be 56 work-days later verses the 18 work-days utilizing the delegated authority.

### **Recommendation**

Since Metro did not request the work, the OIG recommends that funds for this work be reimbursed by the City of Los Angeles (offset by funds Metro pays the City for permit work).

### **B. Spot Check #2 - Regional Connector Transit Project**

This OIG Spot Check report concerns the Regional Connector Transit Corridor Project (Contract C0980 MOD-00141.2), Flower Street from 5<sup>th</sup> to 6<sup>th</sup> Streets- Impacts to Support of Excavation (SOE): Decking, Utilities and Temporary Drainage.

### **Facts of Change Order**

See Attachment A Spot Check #2 chart.

### **Summary #2**

**Scope of Work** - Existing underground utilities are in different locations than what was shown on the as-built drawings and the project definition drawings. This change order is considered differing site conditions that were encountered on Flower Street between 5<sup>th</sup> to 6<sup>th</sup> Streets. The existing underground utilities are multiple communication lines, communication duct banks, and two large storm drains. Additionally a subterranean basement wall and existing building support of excavation were not shown on as-built drawings. The contractor will relocate utilities, modify the support of excavation, and install temporary drainage improvements. The contractor is also directed by Metro to perform work at weekend premium time which eliminates the need for noise/visual barriers and allows for an earlier completion date. Since this work was not included in the original base scope of work, an adjustment in contract price is warranted.

**Budget** - This Modification was negotiated and the award is \$1,900,000. The contractor's proposal was \$2,048,118 and the ICE was \$1,854,717. The award amount was \$148,118 under or 7.23% less than the contractor's proposal. The negotiated amount was \$45,283 over or 2.44% more than the ICE.

**Schedule** - The new delegation process was utilized for this Modification which was executed on March 13, 2019. The scope of work was agreed upon on March 6, 2019, just missing the April cutoff date to submit to V/CM. Using the April V/CM submission date, this Change Order would have gone to the May Board agenda. The scenario of utilizing the Board for approvals on change orders would be 57 work-days later verses the 10 work-days utilizing the delegated authority.

### **Recommendation**

The OIG recognizes the age of the buildings at the site and errors of definitive drawings. This circumstance demonstrates the need to research on the front end, even drawings we have to confirm accuracy, to preclude issuing an expensive change order after construction has commenced.

### **C. Spot Check #3 - Purple Line Extension Section 1 Transit Project**

This OIG Spot Check report concerns the Purple Line Extension Section 1 Transit Project (Contract C1078 MOD-00025), Revised Low Impact Development (LID).

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**Facts of Change Order**

See Attachment A Spot Check #3 chart.

**Summary #3**

**Scope of Work** - The construction project of LID for the maintenance of way/non-revenue vehicle maintenance yard project at Location 64, on South Santa Fe Avenue has been on-going for some time. When the project began, no one was aware of the two contaminated groundwater plumes traveling under the site toward the LA River. Initial design in 2016 proposed permeable pavement and an infiltration trench directly over the plumes. Later in 2016, groundwater investigation took place followed by an in-depth analysis in 2017. It was determined in 2018 that re-design by the consultant was mandatory to comply with Cal/EPA and other agencies regulations. Percolation and infiltration of storm water runoff design now runs to “save zones” within the project. Differing site conditions from the original contract, now requires this Modification in April 2019 to construct the re-design of the LID work to ensure safe groundwater.

The contractor shall build a parallel overflow drainage system that connects to an existing 90-inch storm drain structure which outfalls to the LA River at the northeast corner. The contractor shall also amend the final graded surface, raise fence footings, revise drainage pipe layouts, add additional drainage inlets, enlarge permeable pavement in Area 2 and Area 3, and not build in the original Area 1 which is above the plumes. These modifications should result in safer groundwater and comply with EPA regulations.

**Budget** - This Modification was negotiated and the award is \$612,408. The contractor’s proposal was \$779,428 and the ICE was \$598,898. The award amount was \$167,020 below or 21.42% less than the contractor’s proposal. The negotiated amount was \$13,510 over or 2.26% more than the ICE.

**Schedule** - The new delegation process was utilized for this Modification which was executed on May 10, 2019. The scope of work was agreed upon April 10, 2019, missing May cutoff date to submit to V/CM. Using the May V/CM submission date, this Change Order would have gone to the June Board agenda. The scenario of utilizing the Board for approvals on change orders would be 57 work-days later verses the 23 work-days utilizing the delegated authority.

**Recommendation**

This location was the original site for the Santa Fe Railway yard. Dumping of diesel fuel, lubricating oils, and axle grease was not monitored in 1907. The cost of hiring consultants to investigate, evaluate, re-design and now construct could have been avoided if underground investigation including sampling and boring occurred in the Environmental Assessment stage of the project. The OIG recommends that all upcoming sites where known industrial and railway activity occurred, that a full investigation of soils occurs and is stated in the Environmental Impact Statement. Performing such investigation early may result in additional early costs, but these circumstances will then become known costs of the project and may be prepared with less delay and less costs than waiting.

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**D. Spot Check #4 - Purple Line Extension Section 2 Transit Project**

This OIG Spot Check report concerns the Purple Line Extension Section 2 Transit Project (Contract MC1120 MOD-00037), Revision to Average Depth of Seismic Borings Along Wilshire Blvd. on Tunnel Reach 5.

**Facts of Change Order**

See Attachment A Spot Check #4 chart.

**Summary #4**

**Scope of Work** - This Modification is to dig with the boring machine, straight down an additional 50 feet below the 200 feet as specified in the original contract. The purpose is to complete the geotechnical investigation needed to determine the potential placement of additional special tunnel liner. The new depth will improve Metro's ability to find critical information about where the seismic fault may cross the Purple Line Section 2 alignment at a second location.

**Budget** - This Modification was negotiated and the award is \$921,496. The contractor's proposal was \$1,156,887 and the ICE was \$881,014. The award amount was \$235,391 less or 20.34% under the contractor's proposal. The negotiated amount was \$40,482 more or 4.59% over the ICE. Metro has stated that funds for this change are within the approved Budget.

**Schedule** - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on February 13, 2019. The Modification was executed on March 11, 2019, and was completed in 19 work-days. Using the April V/CM submission date, this Change Order would have gone to the May Board agenda. The scenario of utilizing the Board for approvals on change orders would be 52 work-days later verses the 19 work-days utilizing the delegated authority.

**Recommendation**

The OIG commends the Engineering department for taking additional steps to determine additional the location of seismic fault line in relation to the track alignment for improved safety and long term structural integrity.

**FINANCIAL IMPACT**

Report will have no Financial Impact to the agency.

**Impact to Budget**

- Spot Check #1) \$776,000
- Spot Check #2) \$1,900,000
- Spot Check #3) \$612,408
- Spot Check #4) \$921,496

### **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

The recommendations that the Office of Inspector General has put forward support Metro's Strategic Plan Goal #5: Provide responsive, accountable, and trustworthy governance within the Metro organization. The OIG focuses on fraud, waste, and abuse. For each selected Change Order/Modification reviewed, the OIG evaluates if fraud, waste, or abuse is taking place. We report the background details of the Change Order, and make recommendations consistent with the OIG's Construction Best Practices report February 29, 2016, more particularly focusing on lessons learned, improving efficiencies, and prudent spending. Our goal is to provide rational, trustworthy information to the Board and support the efforts of Metro management to constantly improve and refine its efforts for the benefit of the public. The Office of the Inspector General will continue reporting to the Board the results of Construction Change Order Spot Checks selected from the Program Management Major Project Status Quarterly Report. The next OIG Construction Spot Check report will be in October.

### **NEXT STEPS**

The OIG shall provide every quarter, an on-going spread sheet of recommendations to Program Control. Program Control and Program Management agrees to respond to the recommendations of the OIG within 30 days. The OIG continues to meet periodically to discuss reports, recommendations, and the status of implementation of recommendations, with Project Management and receive updates. The list of OIG recommendations and Metro management responses, including those for January and April, will be an attachment to this OIG July 2019 report.

### **ATTACHMENTS**

Attachment A - Charts for Spot Checks

Attachment B - Tracking sheet of Recommendations and Responses

Attachment C - Power Point for July 2019 Construction Spot Checks

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Karen Gorman  
Inspector General

**Spot Check #1 - Crenshaw/LAX Transit Project - Contract C0988****Facts of Change Order**

<u>Description of Modification MOD-00426</u> Irrigation Water meters, Park Mesa Medians	
<u>Change Order Dates:</u>	
Scope of Work approved	May 09,2019
Modification Executed	June 03, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	18 work days
Estimate using former Board approval process Agenda for the July Board	56 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$475,120
Contractor's proposed cost	\$899,819
Negotiated amount	\$776,000
Negotiated amount over ICE	\$300,880
Percentage of negotiated amount over ICE	63%
Amount negotiated under Contractors proposal	\$123,819

**Spot Check #2 – Regional Connector Transit Project - Contract C0980****Facts of Change Order**

<u>Description of Modification MOD-00141.2</u> Flower Street from 4 <sup>th</sup> to 6 <sup>th</sup> – Impacts to SOE: Decking, Utilities and Temporary Drainage	
<u>Change Order Dates:</u>	
Scope of Work approved	March 06 2019
Modification Executed	March 13, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	10 work days
Estimate using former Board approval process Agenda for the May Board	57 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$1,854,717
Contractor's proposed cost	\$2,048,118
Negotiated amount	\$1,900,000
Negotiated amount over ICE	2.44%
Amount negotiated under Contractors proposal	\$148,118

**Spot Check #3 - Purple Line Extension Section 1 Transit Project - Contract C1078****Facts of Change Order**

<u>Description of Modification MOD-00025</u> Revised Low Impact Development (LID)	
<u>Change Order Dates:</u>	
Scope of Work approved	April 10, 2019
Modification Executed	May 10, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	23 work days
Estimate using former Board approval process Agenda for the June Board	57 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$598,898
Contractor's proposed cost	\$779,428
Negotiated amount	\$612,408
Negotiated amount above ICE	2.26%
Amount negotiated under Contractors proposal	\$167,020

**Spot Check# 4 - Purple Line Section 2 Transit Project - Contract MC1120****Facts of Change Order**

<u>Description of Modification - MOD-00037</u> Revision to Average Depth of Seismic Borings Along Wilshire Blvd. on Tunnel Reach 5	
<u>Change Order Dates:</u>	
Scope of Work approved	Feb. 13, 2019
Modification Executed	March 11, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	19 work days
Estimate using former Board approval process	52 work days
<u>Cost of Modification:</u>	
Metro independent cost estimate (ICE)	\$881,014
Contractor's proposed cost	\$1,156,887
Negotiated amount	\$921,496
Negotiated amount over ICE	4.59%
Amount negotiated under Contractors proposal	\$235,391

ATTACHMENT B (Jan. 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>Jan 2019 / #1 C0988 MOD 00335.1 Crenshaw - Cable Transmission System Update - Construction</p>	<p>"The OIG recommends: The schedule negotiations with the contractor be expeditiously concluded so the schedule impacts are minimized."</p>	<p>Not sure what this means. CO's were issued prior to MOD that obligated the contract to commence work - this mitigated schedule impacts. Response could stay as-is I suppose (with edits) as it is relatively benign in nature</p>	<p>Closed</p>
<p>Jan 2019 / #3 C1120 MOD-00026 Purple Line Sect. 2 - Santa Monica Blvd. Bus Layover Design and Construction Changes</p>	<p>The OIG recommends: That Operations and LADOT be provided the scope of work after requests are submitted or "no comments" are received to confirm their requests have been added into the scope prior to the release of the RFP.</p>	<p>Because the OIG's recommendation is for actions to be taken prior to the release of RFPs, it has been passed on to Metro Engineering for consideration in revising Policy DSGN01 DB for future projects.</p>	<p>Metro Engineering (Androush Danielians/ Edwardo Cervantes) have been notified. They provided the below comment: A process will be set in place that will be included in future Specs and contract language for the PE Consultant. The process will require the consultant to submit plans to all applicable agencies (including Metro). Upon receiving comments, the Consultant shall address each comment as to the disposition in a matrix/spreadsheet. The spreadsheet / matrix will then be submitted to each of the commenting agencies. That agency will then be requested to accept the project disposition (via an initial). If the agency is not in acceptance of the disposition, the Consultant via the Project shall work with each agency until that comment disposition is accepted. The final signed off matrix shall then be included in the RFP for the DB (contractor) to complete the path forward based on the agreed upon disposition.</p>

ATTACHMENT B (April 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>April 2019 / #1 C0988 MOD-00402 Crenshaw/LAX - Provisional Payments - Pending Dispute Resolution Fire Rated Cable (multiple) Change Orders</p>	<p>1. The OIG recommends that Metro expeditiously and fairly resolve the litigation with the Contractor. 2. The OIG further recommends that a review team monitor the billings of the Contractor to validate the efficacy of the incentive program as this may become a tool for improving future performance on other projects.</p>	<p>1. Agree, different mechanisms to achieve this being considered. 2. Agree, already being implemented.</p>	
<p>April 2019 / #3 C1045 MOD-00071 Purple Line Sect. 1 - Golder Gas Investigation and Report</p>	<p>The Independent Cost Estimate was not an accurate representation of work stated in the agreed upon scope of work.  The OIG recommends that Metro continue to follow through on the plan for mitigation of gas migration utilizing the Contractor's new report of procedures where known high concentrations of hydrogen sulfide and methane gases exist.</p>	<p>Metro is following thru on the plan. Installation of wells for field testing began in 3/19</p>	
<p>April 2019 / #4 C1045 MOD-00072 Purple Line Sect. 1 - Reach 3 Additional Gas Testing and Assessment</p>	<p>The OIG recommends: 1. In following the new Contractor's report, Work Plan for Exploratory Program to Assess Mitigations for Potential Gas Migration, a. Record all steps that were successful and those that need modification. b. Have information formatted and add to Technical Specifications. c. Have steps and procedures added into Lessons Learned d. Incorporate these findings and procedures into any future bid process where potential gas migration and tunnel boring may occur. 2. Note under Lessons Learned where known high concentrations of hydrogen sulfide and methane gases exist, prior study and geotechnical investigation be completed and included in the bid documents.</p>	<p>a. Plan to record this. Modifications to the testing program in field to be made as appropriate b. This is likely a unique area. A Full report on the program and recommendations is included in the work. Pending the outcome, Technical Specifications would be developed for the Project c. Agree, also see b above d. We note that investigation is in progress now to study gas migrations. Pending outcome, future bid process would include results, including incorporation in Geotechnical Investigation and Technical Requirements 2. Agree. In this instance the area was studied and fully identified/described in the bid documents. Also see 'b' above.</p>	

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>April 2019 / #5 C1045 MOD-00074 Purple Line Sect. 1 - Additional Instrumentation (Project Wide) as requested by LABOE and STS EOR</p>	<p>The OIG recommends that instrumentation bought for this project become property of LA Metro, so that future projects (remainder of the Purple Line Extension 2 and 3) will have instrumentation on hand to immediately install when Support of Excavation for those projects begin.</p>	<p>Metro has made several attempts in the past for Purple Line and Regional to salvage and reuse geotechnical instrumentation. However, passing the instruments between projects offer a number of challenges. These include the following:</p> <ul style="list-style-type: none"> <li>• The Design life of instrumentation equipment is limited given the temporary nature of the work.</li> <li>• Given the diminished value of the used instrumentation equipment it is often abandoned in place. An effort to salvage the equipment may result in increased costs.</li> <li>• The means, methods and performance of shoring, instrumentation and monitoring are left with the Design-builder. Dictating the used instruments would interfere with the selection of means and methods and make Metro responsible for warranting the equipment for the life of the project.</li> <li>• The technology associated with the equipment continues to evolve. Metro may then be obligating the contractor to use obsolete equipment.</li> <li>• Timing and turnover of instrumentation. The contract schedules for Regional, Crenshaw and Purple Line Sections 1, 2 and 3 all overlap. As such, the instrumentation for each project is needed at the same time.</li> <li>• Metro would need to inventory and temporary store the instrumentation equipment. There is a risk that Metro may be storing the equipment permanently or Metro may need to make efforts for their disposal.</li> </ul>	

ATTACHMENT B (July 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>July 2019 / #1 C0988-MOD-00426 Crenshaw/LAX - Irrigation Water Meters, Park Mesa Medians</p>	<p>The OIG recommends that funds for this work be reimbursed by the City of Los Angeles (offset by funds Metro pays the City for permit work).</p>		
<p>July 2019 / #2 C0980 MOD-00141.2 Regional Connector - Impacts to Support of Excavation: Decking, Utilities and Temporary Drainage</p>	<p>The OIG recognizes the age of the buildings at the site and errors of definitive drawings.</p> <p>The OIG recommends to research on the front end, even drawings to confirm accuracy, to preclude issuing an expensive change order after construction has commenced.</p>		
<p>July 2019 / #3 C1078 MOD-00025 Purple Line Sect. 1 - Revised Low Impact Development (LID)</p>	<p>The OIG recommends that all upcoming sites where known industrial and railway activity occurred, that a full investigation of soils occurs and is stated in the Environmental Impact Statement. Performing such investigation early may result in additional early costs, but these circumstances will then become known costs of the project and may be prepared with less delay and less costs than waiting.</p>		
<p>July 2019 / #4 MC1120 MOD-00037 Purple Line Sect. 2 - Revision to Avg Depth of Seismic Borings along Wilshire Blvd. on Tunnel Reach 5</p>	<p>The OIG recommends the Engineering department for taking additional steps to determine additional the location of seismic fault line in relation to the track alignment for improved safety and long term structural integrity.</p>		