

**Board Report**

File #: 2022-0145, **File Type:** Informational Report**Agenda Number:** 38.

**CONSTRUCTION COMMITTEE
APRIL 21, 2022****SUBJECT: OFFICE OF THE INSPECTOR GENERAL CHANGE ORDER CONSTRUCTION SPOT CHECKS****ACTION: RECEIVE AND FILE****RECOMMENDATION**

RECEIVE AND FILE Office of the Inspector General Change Order Construction Spot Check Report for the period December 1, 2021, to February 28, 2022.

ISSUE

On January 25, 2018, the Metro Board directed the Office of the Inspector General (“OIG”) to conduct random spot checks on change orders for the projects listed in the quarterly program management report to ensure that the CEO Delegation of Authority to approve Construction Change Orders Policy is performing in the manner desired by the Board of Directors.

BACKGROUND

The OIG’s Construction Change Order Spot Check Program (“Spot Checks”) focuses on approved change orders and modifications that exceed \$1,000,000. The four change orders in this report were selected from the Program Management Major Project Status Report (Legistar file # 2022-0159) covering December 1, 2021, to February 28, 2022. The information for the Spot Checks was collected from the Program Management Information System (PMIS) which is the department’s database system. Also, TEAM meetings and telephonic interviews were conducted with Metro Program Management, Project Control, and Procurement staff from each involved project office.

We found that all four change orders in this report were:

- Negotiated and executed more expeditiously than would have occurred according to the former Board approval process,
- Approved faster with the new delegation of authority, and
- Negotiated at a lower cost than the contractors’ proposed price.

Each Spot Check summarizes the following areas:

- Description of the change order,
- Change order detail,
- Scope of Work,
- Budget,
- Schedule: Time to execute the change order,

- Safety, and
- Recommendations, if any.

Metro's Program Control department has provided informal responses to this report before its issuance and will provide written responses to the recommendations in this OIG Spot Checks Report within 30 days after this Report is issued. Included with this Report is a spreadsheet on the status of responses concerning former OIG Spot Check Report recommendations.

DISCUSSION

Spot Checks Performed in this Quarter

Spot Check #1 - Crenshaw/LAX Transit Project

This OIG Spot Check report concerns the Crenshaw/LAX Transit Corridor Project (Contract C0988 MOD-00551), Landscape Changes, Park Mesa.

Change Order Detail

See Attachment A Spot Check #1 chart.

Summary #1

Scope of Work - This change order involves added work for the curb and gutter in the median along Crenshaw Blvd from 60th street to Vernon Avenue in the Park Mesa area. Additionally, the medians will be landscaped with shrub and ground cover and irrigation will be added for watering purposes from 60th street to 48th street. The work in the median is out of the original scope of work because of new requirements set by the City of Los Angeles requires Metro to create a landscape median adjacent to the trackway.

Budget - These modifications were negotiated, and the award amount is \$3,636,214. The Contractor's proposal was \$5,711,786 and the ICE was \$3,674,989. The award amount was \$2,075,572 (36%) under the contractor's proposal. The negotiated amount was \$-38,775 (-1.1%) under the ICE. Staff stated that funds for this change are within the approved Life-of-Project budget.

Schedule - The new delegation process was utilized for this modification. The Contractor and Metro agreed on the scope of work on February 2, 2022. The modification including the price, was awarded on March 4, 2022, and was completed in 23 workdays. Under the prior Board approval method for change orders, assuming a May Board meeting date, it would have taken a total of 37 workdays to complete the work.

Safety - The Crenshaw Project has 11,340,642.50 project hours through January 2022 with a Recordable Injury Rate of 1.8 (per the Bureau of Labor Statistics the National Average is 2.4) and a Days Away Rate (DART) of 0.14 (per the Bureau of Labor Statistics National Average is 1.5).

Recommendation - none

Spot Check #2 - Regional Connector - Transit Corridor Project

This OIG Spot Check report concerns the Regional Connector - Transit Corridor Project (Contract C0980 MOD-00230): Alameda Emergency Stair Exit (ES2)

Change Order Detail

See Attachment A Spot Check #2 chart.

Summary #2

Scope of Work - This Change Order is to install an additional Emergency Exit Stairway (ES2) on Alameda Street to access the underground rail and guideway between 1st Street and Temple Street. With the addition of the Alameda fan plant, Metro Engineering and Metro Safety determined it was necessary to add a second egress for emergency situations for compliance with the Metro Rail Design Criteria and applicable building fire codes. The distance between the emergency stairs at the new fan plant and the subsequent station was too far a distance which necessitated another emergency exit stairwell.

Budget - These modifications were negotiated, and the award amount is \$2,199,000. The Contractor's proposal was \$2,818,207 and the ICE was \$2,147,299. The award amount was \$619,207 (22%) under the contractor's proposal. The negotiated amount was \$51,701 (2.4%) over the ICE. Staff stated that funds for this change are within the approved Life-of-Project budget.

Schedule - The new delegation process was utilized for this modification. The Contractor and Metro agreed on the scope of work on December 23, 2021. The modification including the price, was awarded on February 17, 2022, and was completed in 37 workdays. Under the prior Board approval method for change orders, assuming a March Board meeting date, it would have taken a total of 61 workdays to complete the work.

Safety - Regional Connector Project has 6,970,583 project hours through January 2022 with a Recordable Injury Rate of 0.72 (per the Bureau of Labor Statistics the National Average is 2.4) and a Days Away Rate (DART) of 0.0 (per the Bureau of Labor Statistics National Average is 1.5).

Recommendation - The OIG recommends in-house plan review be as fully completed as possible before Metro groups sign off on the design plans.

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 C1045 MOD-00144), Construction La Cienega Station During Mining.

Change Order Detail

See Attachment A Spot Check #3 chart.

Summary #3

Scope of Work - This change order covered the re-sequencing of the construction processes of the La Cienega station. The construction of the station would have been on hold until the tunnel boring machines (TBMs) finished mining the tunnels into the station as planned in the contract. At the time an unknown metal structure (anomaly) was detected below the surface at the intersection of Wilshire and San Vicente. The contractor chose to fortify the underground pipes and surrounding soil by potholing and chemically grouting to strengthen the area for the TBMs to proceed. Both TBMs were idle for some months awaiting a decision about the anomaly. By delaying the TBMs the project was estimated to be behind schedule more than a full year. With re-sequencing the construction, a

temporary floor 22 feet higher than the original invert elevation was erected so the stations upper walls, upper concourse, and ceiling was allowed to advance to completion. The TBMs, after clearing the anomaly, successfully made it into the La Cienega station under the 22-foot-high upper floors to complete their journey.

Budget - These modifications were negotiated, and the award amount is \$15,879,565. The Contractor's proposal was \$22,704,930 and the ICE was \$14,059,279. The award amount was \$6,825,365 (30%) under the contractor's proposal. The negotiated amount was \$1,820,286 (13%) over the ICE. Staff stated that funds for this change are within the approved Life-of-Project budget.

Schedule - The new delegation process was utilized for this modification. The Contractor and Metro agreed on the scope of work on October 15, 2021. The modification including the price, was awarded on December 22, 2021, and was completed in 47 workdays. Under the prior Board approval method for change orders, assuming a January Board meeting date, it would have taken a total of 70 workdays to complete the work.

Safety - Purple Line Ext. 1 Project has 6,740,817.47 project hours through January 2022 with a Recordable Injury Rate of 1.18 (the Bureau of Labor Statistics reports the National Average is 2.4) and DART of 0.089 (the Bureau of Labor Statistics reports the National Average is 1.5).

Recommendation - none.

Spot Check #4 - Purple Line Extension Section 1 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 1 Transit Project (Contract C1045 MOD-00147), Vapor Extraction Street Restoration.

Change Order Detail

See Attachment A Spot Check #4 chart.

Summary #4

Scope of Work - This change order is to perform street rehabilitation with asphalt replacement, median restoration, and restriping of the travel lanes along Wilshire Blvd and Crescent Heights area. Vapor extraction was to remove the methane and hydrogen sulfide gasses prior to the TBMs tunneling through the high gas level zone for safety. The installation of numerous vapor extraction wells were drilled into Wilshire Boulevard for safer release of the gasses. Now that the TBMs have completed their journey, the capped wells will remain in place, the well holes will be covered, and the street will be restored to city standards.

Budget - These modifications were negotiated, and the award amount is \$1,087,452. The Contractor's proposal was \$1,253,078 and the ICE was \$823,462. The award amount was \$165,626 (13%) under the contractor's proposal. The negotiated amount was \$263,990 (32%) over the ICE. Staff stated that funds for this change are within the approved Life-of-Project budget.

Schedule - The new delegation process was utilized for this modification. The Contractor and Metro agreed on the scope of work on December 7, 2021. The modification including the price, was awarded on February 1, 2022, and was completed in 38 workdays. Under the prior Board approval method for change orders, assuming a May Board meeting date, it would have taken a total of 75

workdays to complete the work.

Safety - Purple Line Ext. 1 Project has 6,740,817.47 project hours through January 2022 with a Recordable Injury Rate of 1.18 (the Bureau of Labor Statistics reports the National Average is 2.4) and DART of 0.089 (the Bureau of Labor Statistics reports the National Average is 1.5).

Recommendation - none.

FINANCIAL IMPACT

This report will have no financial impact on the agency.

Impact to Budget

- For all of the construction change orders reviewed, Metro states the funds are within the approved budget and will utilize the contingency funds to cover the costs from the LOP budget.
- Spot Check #1) \$3,636,214 Crenshaw/LAX Transit Corridor Project
- Spot Check #2) \$2,199,000 Regional Connector Transit Corridor Project
- Spot Check #3) \$15,879,565 Purple Line Extension Section 1 Project
- Spot Check #4) \$1,087,452 Purple Line Extension Section 1 Project

EQUITY PLATFORM

In the opinion of the OIG, we considered whether these change orders presented any equity related issues on their face. Three of the locations: Alameda and 1st Street, Crenshaw Blvd. and Wilshire Blvd., are within or adjacent to Equity Focus Communities (EFC's). Regional Connector and Purple Line Ext. 1 construction projects is required to install tall (over 20-ft high) sound walls around the construction worksites to protect residential communities and office suites from the nuisance of construction noise. The exterior public side of the temporary construction site walls also serves as community advertisement space for local businesses and keeps the public safe as a barrier from the construction activities.

The OIG did not receive any data concerning other community impacts. Each of the contractors are striving to have work performed by Disadvantage Business Enterprises (DBE) typically at 12-15% implementation, for these change orders at these EFC sites. The OIG observed no obvious disparate impacts created by these change orders on small businesses, low-income persons, or by the performance of the work in a manner that impacted a disadvantaged community beyond what is typical and usual when conducting any construction.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The Office of Inspector General reviews large change orders over the quarter and makes recommendations as appropriate to support Metro's Strategic Plan Goal #5: Provide responsive, accountable, and trustworthy governance within the Metro organization and CEO goals to exercise fiscal discipline to ensure financial stability. The OIG mission includes reviewing expenditures for fraud, waste, and abuse in Metro programs, operations, and resources. For each selected change order reviewed, the OIG evaluates whether there are red flags of fraud, waste, or abuse taking place.

We report the details of the significant change orders and make recommendations consistent with the OIG's Construction Best Practices report dated February 29, 2016, more particularly focusing on lessons learned, improving efficiencies, and prudent spending.

NEXT STEPS

The OIG shall provide every quarter, an ongoing spreadsheet 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 the recommendations with Project Management, and receive updates. The list of OIG recommendations and Metro management responses is an attachment to this OIG report (Attachment B).

ATTACHMENTS

Attachment A - Change Order Details for Spot Checks

Attachment B - Tracking Sheet of OIG Recommendations and Responses to last quarter

Attachment C - PowerPoint for April 2022 Construction Spot Checks

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Karen Gorman
Inspector General

Spot Check #1 – Crenshaw/LAX Transit Corridor Project - Contract C0988**Change Order Detail**

<u>Description of Modification MOD-0551</u> Landscape Changes – Park Mesa	
<u>Change Order Dates:</u>	
Scope of Work approved	February 02, 2022
Modification Executed	March 04, 2022
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	23 workdays
Estimate using former Board approval process Agenda for the May Board	37 workdays
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$3,674,989
Contractor's proposed cost	\$5,711,786
Negotiated amount	\$3,636,214
Percentage of negotiated amount <i>under</i> ICE	-1.1%
Amount negotiated less than the Contractor's proposal	\$2,075,572

Spot Check #2 – Regional Connector Transit Corridor Project - Contract C0980**Change Order Detail**

<u>Description of Change Order MOD-0230</u> Alameda Emergency Stair Exit (ES2)	
<u>Change Order Dates:</u>	
Scope of Work approved	December 23, 2021
Modification Executed	February 17, 2022
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	37 workdays
Estimate using former Board approval process Agenda for the March Board	61 workdays
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$2,147,299
Contractor's proposed cost	\$2,818,207
Negotiated amount	\$2,199,000
Percentage of negotiated amount <i>over</i> ICE	2.4%
Amount negotiated less than the Contractor's proposal	\$619,207

Spot Check #3 - Purple Line Extension Section 1 Transit Project - Contract C1045**Change Order Detail**

<u>Description of Modification MOD-0144</u> Constructing La Cienega Station During Mining	
<u>Change Order Dates:</u>	
Scope of Work approved	October 15, 2021
Modification Executed	December 22, 2021
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	47 workdays
Estimate using former Board approval process Agenda for the January Board	70 workdays
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	14,059,279
Contractor's proposed cost	22,704,930
Negotiated amount	15,879,565
Percentage of negotiated amount over ICE	13%
Amount negotiated less than the Contractor's proposal	\$6,825,365

Spot Check# 4- Purple Line Extension Section 1 Transit Project - Contract C1045**Change Order Detail**

<u>Description of Modification – MOD-0147</u> Vapor Extraction Street Restoration	
<u>Change Order Dates:</u>	
Scope of Work approved	December 07,2021
Modification Executed	February 01, 2022
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	38 workdays
Estimate using former Board approval process Agenda for the March Board	75 workdays
<u>Cost of Modification:</u>	
Metro independent cost estimate (ICE)	\$823,462
Contractor's proposed cost	\$1,253,078
Negotiated amount	\$1,087,452
Percentage of negotiated amount over ICE	32%
Amount negotiated under the Contractor's proposal	\$165,626

ATTACHMENT B (April 2022)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
April 2022 #1 Contract C0988 MOD-0551 Crenshaw/LAX Transit Corridor Project Landscape Changes – Park Mesa	none		
April 2022 #2 Contract C0980 MOD-00230 Regional Connector - Transit Corridor Project Alameda Emergency Stair Exit (ES2)	The OIG recommends in-house plan review be as fully completed as possible before Metro groups sign off on the design plans.		
April 2022 #3 Contract C1045 MOD-0144 Purple Line Extension Sect. 1 Construction LaCienega Station During Mining	none		
April 2022 #4 Contract C1045 MOD-0147 Purple Line Extension Sect. 1 Vapor Extraction Street Restoration	none		

ATTACHMENT B (January 2022)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
January 2022 #1 Contract C0980 MOD-00218 Regional Connector - Transit Corridor Project Metro Eastside Access Improvement Project "Segment 2" Esplanade and other improvements along Alameda Street – Construction Only	none		
January 2022 #2 Contract C1136 CO-00020.2 Division 20 Portal Widening and Turnback Project Differing Site Conditions - Connections to Existing Ductbanks and Unknown Utilities Impacts	The OIG recommends that Metro continue to track the time and materials used by the contractor while negotiating the Contractor's cost and schedule proposal and to bring this change order to a final award amount.	Final award amount for CO-00020.2 has been reached. Negotiations with the Contractor (TPC) consisted of multiple workshops to reach agreement on rates of production, activity duration, labor, materials and equipment required, complexity of the work. Since agreement on these items was challenging, Metro made a business decision to start with the contractor's estimate and deduct items that were not allowed in the contract. A final settlement for CO 20 was reached at \$43.3M, approximately \$10M under the contractor's original estimate. A time delay for changes related to CO 20 in the amount of \$6M, or 6 months at \$1M per month, has also been agreed upon for these changes.	Substantial Completion and commissioning of the turnback track is scheduled for late Fall of 2024 to coincide with Revenue Operations of PLE1. Final project completion could be as much as a year later.
January 2022 #3 Contract C1120 CO-00034 Purple Line Extension Sect. 2 Century City Constellation Station Storm Drain and Sanitary Sewer Relocation Construction of MOD 70 Design	none		
January 2022 #4 Contract C1152 MOD-0007 Purple Line Extension Sect. 3 Replacement Parking at VA Hospital Lot 42 During Station Construction	The OIG recommends that the Contractor be instructed to timely submit cost proposals, enter negotiations, and sign agreements before work is performed so Metro can process the work order close in time to work being performed, not only to pay the contractor but to help ensure the sub-contractors are paid timely.	No Comments	

ATTACHMENT B (October 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>October 2021 #1 Contract C0980 MOD-00206 Regional Connector - Transit Corridor Project Add Wye Junction Fan Plant - Construction</p>	<p>Since the Board approved of a budget for this item in 2015 at \$12 mil., the cost has increased to a total of \$21,186,000 (a 77% increase). This Fan System cost has been reported in pieces, as parts were completed, but not as a whole to indicate the cost creep overall over time. We recommend that when LOP information is being periodically provided to the Board that it includes a summary, per project, to show historical cost information over the life of each project. That summary should indicate if they anticipate completing the project within the current LOP and how many LOP increases have occurred so far.</p>	<p>The initial board item in 2015 for the fan plant was an ROM at the time and had yet to be fully designed and estimated for a complete change. As the project progressed the design and went into construction, the team worked through the negotiations for the full scope of the fan plant. As of now, there has only been one LOP increase and the project has anticipated that the project would fall within the LOP to date. Project team will work with Program Management leadership on how information is reported and follow Program Management's direction for any changes on how LOP is reported.</p>	
<p>October 2021 #2 Contract C1136 MOD-00020 Division 20 Portal Widening and Turnback Project Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project</p>	<p>The OIG recommends: 1. When Metro needs to expedite a project, include Operations in the initial planning phase early, prior to and during design so they can provide constant input during the design. 2. Explore with Operations if they need additional resources to dedicate full time to assist in the intense design, planning, and implementation pre-opening phases of Metro's rail infrastructure/capital projects, or other ways in which Program Management and Operations can work together to approach these projects to maximize cooperation, communication, and assistance. 3. Have the Legal Department review our designer contracts to determine if they are adequate to hold contractors accountable, enforceable, and require use of bonds and proof of adequate insurance to cover errors of this type and resulting in cost of this magnitude.</p>	<p>1. Project alignments were revised during planning phase to accommodate additional storage capacity and technical requirements required for turnback headways. As design progressed, Operations participated in frequent design review meetings. 2. Additional Operations resources during design phases would be beneficial and help produce more comprehensive reviews. 3. Project team is coordinating with County Counsel on review of designer contracts.</p>	
<p>October 2021 #3 Contract C1045 MOD-0 137 Purple Line Extension Sect. 1 Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts</p>	<p>see #4 for recommendation</p>		
<p>October 2021 #4 Contract C1045 MOD-00138 Purple Line Extension Sect. 1 Additional Dewatering Treatment and Discharge Impacts at Western</p>	<p>The OIG recommends that all dewatering change orders for this project should be evaluated or audited. The Geotechnical Baseline Report issued by the consultant to Metro was not accurate for the soil type, ground water, and hydrogen sulfide levels for each segment of Purple Line Section 1 and the consultant might be held liable for some of the costs of differing site conditions not correctly determined by the consultant. Unplanned dewatering site conditions also cost Metro \$15.8 mil. at the La Brea Station and \$16.8 mil. at the La Cienega Station in 2020 and 2019 respectively.</p>	<p>The dewatering MODs for WPLE-1 have been already been evaluated as part of the CN process. In order to minimize the potential for future DSCs on other Projects, consideration should be undertaken to expend more resources during Preliminary Engineering (PE) to more accurately project the actual conditions encountered. The costs of additional PE should be weighed against the increased base bid prices, or future Change Order costs if no additional PE efforts are undertaken. Valid additional costs to Metro, via the base bid or Change Order, will be incurred either way. It is premature at this time to hold the PE Consultant liable for all or a portion of the costs of this MOD.</p>	

ATTACHMENT B (July 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
July 2021 #1 Contract C0980 MOD-00196 Regional Connector - Transit Corridor Project Construct the 2nd & Broadway Station Overbuild Load Transfer System	none		
July 2021 #2 Contract C0980 MOD-00202 Regional Connector - Transit Corridor Project Revise Communications Radio System Scope of Work- Construction	The OIG recommends that after installation of the new radio system that interface with Los Angeles fire, police and sheriff departments be tested and verified for their signal strength and connectivity.	Agreed, all radio systems will be fully tested and verified for signal strength and connectivity	
July 2021 #3 Contract C1045 MOD-0131 Purple Line Extension Sect. 1 Wilshire/Fairfax Station Subgrade Differing Site Conditions	The OIG recommends that after a DRB issues its recommendations that favor the contractor, Metro act swiftly to move forward with a change notice to the contractor and not delay payment to the contractor, less any credits owed to Metro. We understand in this particular case the contractor assigned a lower priority for processing this change notice over many others.	In this case there was no requirement for Metro to issue a Change Notice due to the DRB ruling. The Contractor (STS) chose to delay providing Metro with a cost proposal associated with the DRB ruling due to other higher Contractor priorities. After the eventual receipt of the DRB ruling proposal from the Contractor, the costs were negotiated, and a MOD issued (w/o any Change Notice being created). It should be noted that whether a Change Notice is issued or not, the Contractor has the right to submit a proposal whenever and for whatever they perceive as changed work (via a Request for Change). Section 1 has and continues to issue Change Notices in a timely manner when Metro recognizes merited changed scope of work.	
July 2021 #4 Contract C1152 MOD-0014 Purple Line Extension Sect. 3 Revisions to Westwood/UCLA Station Entrances – Design Only	none		

ATTACHMENT B (April 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
April 2021 #1 Contract C0988 MOD-00253.3 Crenshaw/LAX Transit Corridor Project Landscape Changes – Park Mesa	The OIG recommends that we identify quickly the differences in cost between the new scope of work from the contract and finalize plans and the cost with the prime Contractor.	-Agree and recommendation will be incorporated into C/LAX Project Lessons Learned. -C0988 Contract Team has started to identify the differences in cost between the new scope of work from the contract. Additionally, new scope of work will only be processed if it is a safety related change.	
April 2021 #2 Contract C0980 MOD-00188 Regional Connector - Transit Corridor Project 2nd/Hope Pedestrian Bridge - Construction	no recommendation concerning this change order		
April 2021 #3 Contract C1120 MOD-0095 Purple Line Extension Sect. 2 Station and Bicycle Parking, Architectural Features Design and Construction Changes at Wilshire/Rodeo & Century City Constellation Stations	The OIG recommends that Purple Line, Section 3, be immediately evaluated to determine if the MRDC architectural updates and the Metro bike hub system changes have been incorporated into the Purple Line Extension Section 3 Transit project. This will ensure consistency, compliance with the MRDC, and cost assessments to be determined and negotiated at the earliest possible time.	Purple Line Sect #2 response: Noted. Purple Line Sect #3 response: The WPLE3 contract included the latest MRDC requirements for bike hubs at both stations at time of bid, which minimized changes to the WPLE3 contract.	
April 2021 #4 Contract C1120 MOD-0095 0100 Purple Line Extension Sect. 2 Century City Constellation Main Entrance - Construction	The large cost disparities between the ICE and a Contactor's proposal on high dollar transactions should continue to prompt further technical and commercial evaluation in order to arrive at a fair and reasonable price. The OIG recommends that the ICE be evaluated by the Estimating department to further evaluate the significant differences between the Contractor's proposal and their independent estimate utilizing both technical and commercial evaluation.	ESTIMATING response: Metro Estimating will review the ICE and CSP and work with V/CM and Project Management staff to evaluate the differences. Purple Line Sect #2 response: Project staff will continue to involve Estimating staff in scoping discussions to ensure that they have a full understanding of the scope of work for all Change Work.	

ATTACHMENT B (January 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>January 2021 #1 Contract C0980 MOD-00184 Regional Connector - Transit Corridor Project Expanded Duco Yard and Temple Street Sanitary Sewer Work</p>	<p>The OIG recommends that future contracts with the designer should include verification of sewers identified as abandoned, and to document the verification on the construction drawings if the cost of such verification is minor and the consequences of reliance on erroneous information is significant. Additionally, the OIG recommends that the as-built record drawings at the City be updated.</p>	<p>Planning and engineering need to rely on as-built records for much of their work. However, where key utilities are involved, it is best that their condition and status be validated during the preliminary design phase. This investigation is often expensive and not easily performed without site investigation. The engineer must use his/her judgement to determine which utilities require physical investigation and inspection. Project budget contingency should be set aside for utility discrepancies that may be discovered during construction. Agree that even minor utilities, improperly documented, can have a significant cost and/or schedule impact to a project and should be investigated early, to the extent possible. The City is the best entity to ensure that underground maps are complete.</p>	<p>No further action from Regional Connector as project design has already been completed. However, efforts are continually made to perform potholing investigations for verification prior to construction so as to avoid impacts to schedule should discrepancies be found.</p>
<p>January 2021 #2 Contract C1045 MOD-00121 Purple Line Extension Sect. 1 Alternate Soil Disposal</p>	<p>California laws, including Senate Bill 1383 of 2016 set mandatory targets to reduce waste going to landfills. Metro developed a recycling policy (GEN 51) in response to State recycling goals and to support Metro's sustainability goals. The Conditional Use Permit for the Chiquita Canyon Landfill was set to expire and the Landfill operator sought a new permit, which was granted in July, 2017. The new permit requirements limits the rate of tonnage of dumping allowed, hours of operation, and the county set other multiple requirements that Chiquita Canyon must adhere. The OIG recommends:</p> <ol style="list-style-type: none"> 1. Construction waste disposal options are utilized to minimize project costs and to help achieve the reduction goal of a 75% reduction in waste by 2025; 2. Project teams work very closely with the Metro Sustainability Department, State, Los Angeles County, other regulators, landfill owners, and contractor's personnel, to determine options consistent with GEN 51 for the reuse of soils and construction debris in the current or other construction sites; 3. When a Board member has a matter come before them at their respective municipalities that can potentially effect Metro projects, if they would give notice to Metro of the matter, Metro can determine how its projects will be impacted and possibly address the matter with the municipality or 3rd party prior to the matter being approved including possibly negotiate that the terms of a permit not allow price increases or other impacts on Metro projects where contractual commitments have previously been negotiated in reliance on previous conditions; 4. LA Metro evaluate how other LA Metro projects for which a contract was entered may be impacted by the newly imposed landfill mitigations and higher fees. 	<p>Metro acknowledges the recommendations listed and provides the following responses below:</p> <ol style="list-style-type: none"> 1. Per contract, the project must divert/recycle 75% of waste. Purple Line Section 1 has diverted 100% of excavated clean material on the project to be reused as beneficial cover or fill at offsite projects. 2. The Purple Line Section 1 project has a member of the Metro Environmental Compliance and Sustainability Department (ECSD) on staff. This team member updates project management and contractors on opportunities to reduce waste impacts as they become available across the county. 3. Acknowledged 4. ECSD management will review awarded projects and available facilities and make recommendations on where to make changes to disposal practices as needed. 	
<p>January 2021 #3 Contract C1120 MOD-0091 Purple Line Extension Sect. 2 Increase UPS Spare Capacity at Wilshire Rodeo and Century City Constellation Stations</p>	<p>The OIG recommends that immediately prior to sending out an RFP, Metro should insure that the most current MRDC is used.</p>	<p>In this case, the updated MRDC Section 8 was added to the RFP near the end of the solicitation period, but conflicts with other contract documents were not identified because of the late issuance of the update. Staff agree that all future changes to the MRDC should be coordinated by Metro Engineering and issued before future RFPs are released.</p>	

ATTACHMENT B (January 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
January 2021 #4 Contract C1152 CO-0005.1 Purple Line Extension Sect. 3 VA Hospital Replacement Parking for Lot 42 During Station Construction Phase	The OIG recommends that the Project office and Real Estate continue to work closely and aggressively to come to a full resolution with the VA hospital and the contractor on the modified costs.	Agree	

ATTACHMENT B (October 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>October 2020 #1 Contract C0988 MOD-00485 Crenshaw/LAX Transit Corridor Project Case 5 Bedding Required by LABOE</p>	<p>Since the 'Green book' states the support and materials for sewer and storm drain pipe are to be encased in concrete, the OIG recommends that the LA Metro rail standard drawing US-014, be updated to reflect the required City standard and Metro may negotiate with the LABOE to adopt a different standard for specific projects as warranted.</p> <p>We further recommend, as discussed in previous reports, that Metro study the large discrepancies between the Metro ICE and the award amounts to determine if there is a method by which those discrepancies can be narrowed. This recommendation applies to many of the Spot Checks reviewed in this Report, and is based also on a Metro audit completed by the Management Audit Services Department that noted significant discrepancies in these amounts to be a frequent occurrence.</p>	<p>Recommendation will be incorporated into C/LAX project Lessons Learned.</p>	
<p>October 2020 #2 Contract C1045 MOD-00111 Purple Line Extension Sect. 1 Fairfax Paleo Zone Modified Limits</p>	<p>The OIG recommends future GBR's include a more comprehensive underground site assessment to determine a better approximation of the marine and paleo geological layers. In this instance, a robust underground assessment would have avoided the costly change order. However, the additional excavation costs would have been included in the higher base bid value.</p>	<p>Recommendation will be incorporated into PLE1 project Lessons Learned.</p>	
<p>October 2020 #3 Contract C1120 MOD-00080 Purple Line Extension Sect. 2 Demobilization and Remobilization due to COBH Moratorium</p>	<p>The MOA between Metro and COBH imposes additional restrictions on Metro and adds costly change orders to the original contract.</p> <p>The OIG recommends Metro adopts a standardized MOA for use in negotiations with all jurisdictions within Los Angeles County and utilizes this agreement for every construction project going forward in each respective jurisdiction and that budget estimates for projects should be revised as necessary to take into consideration MOAs entered into.</p>	<p>Agreed.</p>	
<p>October 2020 #4 Contract C1151 MOD-0004.1 Purple Line Extension Sect. 3 Increase Ground Water Treatment Plant Capacity at Tail Track Exit Shaft</p>	<p>It is the OIG's understanding that water pump tests and water quality tests were performed, but they were performed at the original location, the Army Reserve site, which is no longer the correct shaft location. Now the site is at the Veterans Administration property. A change in location can greatly affect both the levels and quality of the groundwater, thus increasing the revised dewatering process.</p> <p>It is critical that the Real Estate Department be included at the earliest possible time in negotiating the property requirements for a project. Having to change location plans after a contract award can have significant scheduling and expense consequences.</p>	<p>The location of the Tail Track Exit Shaft had to move from an environmentally cleared site occupied by the Army reserve site to the US Department of Veterans Affairs West Los Angeles campus when it became evident that the US Army Reserve was unwilling to allow the use of this location for either construction laydown or a permanent Metro Facility. Metro Real Estate and Project staff successfully negotiated with the Department of Veterans Affairs to enable relocation of this construction laydown area and permanent facility to their West Los Angeles Campus.</p>	

ATTACHMENT B (October 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>October 2020 #5 Contract C1151 MOD-0005 Purple Line Extension Sect. 3 Addition of Sepulveda Staging Area to Compensate VA Site Reduction</p>	<p>The Purple Line Extension 3 was a 'next decade project' and was accelerated to be completed in the next 5 years with many project processes that had to be compressed to meet the schedule. We also understand that the real estate acquisition process is contingent on the funding being in place.</p> <p>The real estate acquisition process and all other real estate arrangements must be negotiated as early as possible and negotiate those property rights strategically to ensure we have our real estate needs met at the earliest and least expensive manner possible.</p>	<p>The space available for staging at the Tail Track Exit Shaft on the Department of Veterans Affairs Campus is limited; being located in a nationally designated historic district. Metro Real Estate and Project Staff have and are working closely together, in a timely manner to ensure real estate acquisitions are coordinated with project need dates to minimize overall risk and cost to Metro in delivering the project.</p>	

ATTACHMENT B (August 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
August 2020 #1 Contract C1045 MOD-00095 Purple Line Extension Sect. 1 Transit Project: Phase 5 Golder EOR Mitigation Plan Implementation	<p>The OIG is in agreement with applying extra safety precautions that the Metro project office has put forward. Where conditions are relatively unique to the tunneling industry, more prescriptive specifications for means and methods in these zones is warranted.</p> <p>Since the Contractor, Golder Gas, performed the entire mitigation plan including removal and mitigation, the OIG recommends that LA Metro ensure that Golder Gas is held contractually, jointly, and severally liability for any future incident involving gas in the area where the soil vapor extraction wells and the monitoring wells are installed and abandoned. This is the common practice in environmental cases where a "consulting expert" is hired to monitor and mitigate a hazardous substance issue.</p>	<p>The Section 1 Project will review the indemnification text issued to Golder that was required by STS in order for Golder to proceed with the work. This indemnification will determine what Golder's future obligations are.</p>	
August 2020 #2 Contract C1045 MOD-00106 Purple Line Extension Sect. 1 Center Muck Shaft at La Brea (ECI-03)	<p>The OIG recognizes that this type of shaft at the La Brea station can serve a legitimate purpose and that the OIG recommends that use of such methods should be considered and contemplated in future project specifications and a reserve for same should be made when the savings in time, expense, and safety outweigh the cost of such a shaft.</p>	<p>OIG comment received will be included in the lessons learned.</p>	
August 2020 #3 Contract C1045 MOD-00107 Purple Line Extension Sect. 1 Center Muck Shaft at La Brea (ECI-03)	<p>The OIG is concerned that a bid of 40% over an ICE, when you are in a noncompetitive circumstance, may not be a good faith offer or bad communication on specifications. Such behaviors can have the effect of damaging a relationship during an early phase of construction and create distrust that can harm project collaboration in the future. We appreciate a contractor's willingness to proceed on work even without a commitment from Metro in some cases for the payment for that work, but recommend the contractor exercise greater care in formulating its proposals and that Metro be clear and fair but diligent and firm in its ICE calculations and negotiations stance.</p>	<p>OIG comment received. Contractor will be reminded to have appropriate personell attend the fact finding and provide timely complete CSP in order to resolve issues in a collaborative manner.</p>	

ATTACHMENT B (August 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>August 2020 #4 Contract C1120 MOD-00073 Purple Line Extension Sect. 2 Century City Constellation Station Track work Extension</p>	<p>1. The OIG is concerned that a bid is almost 3 times over the ICE, when you are in a noncompetitive circumstance, may not be a good faith offer or bad communication on specifications. Such behaviors can have the effect of damaging a relationship during an early phase of construction and create distrust that can harm project collaboration in the future. We appreciate a contractor's willingness to proceed on work even without a commitment from Metro in some cases for the payment for that work, but recommend the contractor exercise greater care in formulating its proposals and that Metro be clear and fair but diligent and firm in its ICE calculations and negotiations stance.</p> <p>LA Metro is having to absorb the cost of track extension change orders that arose due to errors and omissions on the part of the engineering consultant WSP. The OIG was informed that WSP miscalculated the braking distance in the initial project definition drawings that were supplied to the construction contractor. Metro will have to cover this expense with the contractor, but should look to the design engineering firm for reimbursement to Metro of the costs it would not have had to otherwise incur less amounts saved or mitigations.</p> <p>2. The OIG additionally recommends that Metro review the current Metro Rail Design Criteria (MRDC) compared to the newly released FRA track design standards for accommodating a train entering a stub-end to determine if any modification or update to our MRDC is warranted.</p>	<p>1. If a Cost and Schedule Proposal (CSP) is significantly higher than the Independent Cost Estimate (ICE), Metro's Contract Administrator and the Project Team engages in further meetings with the Contractor to clarify scope in order to determine the source of the discrepancies between the two estimates. These meetings are professional in nature, and often result in favorable resolution on a price that is somewhere between the ICE and the revised CSP. This process ultimately leads to the execution of mutually agreed upon Contract Modifications, and avoids costly disputes related to Changed Work.</p> <p>Related to the cost of the change, if WSP had calculated the braking distance correctly, the Contractor's proposal price would have included the cost for the trackwork that was recently added by Contract Modification. As a result, the awarded contract value would have been slightly higher, and the project contingency slightly lower at Notice to Proceed. The only additional cost that this error by WSP may have created is a theoretical premium for paying for added trackwork in a non-competitive environment, which would be difficult to prove. It should be noted that the difference between the executed Contract Modification price and the ICE was about 17%, or \$171,000. As a result, it is likely that it would be difficult for Metro to determine if it paid a non-competitive premium. That said, the recommendation will be discussed with senior executive management in VCM and Program Management to determine if any action against WSP will take place.</p> <p>2. This recommendation will be referred to Metro Engineering for consideration.</p>	

ATTACHMENT B (April 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>April 2020 #1 C0980 MOD-00161 Regional Connector - Procure Medium Attenuation Fasteners in Lieu of Standard Direct Fixation Rail Fasteners for the 2nd & Broadway Crossover</p>	<p>Regional Connector project is very unique because of all the existing historical buildings above the construction. Noise pollution has become a major concern for urban transit dwellers and authorities. The rule of thumb is a 10decibel technical increase in noise is heard by the human ear as "doubled" in loudness. When constructing underground for tunnels and stations the Environmental Impact Report must remember to always mitigate sound and vibration to protect the potentially impacted fragile surface buildings.</p> <p>The OIG recommends this scenario be written into the Lessons Learned file for future similar situations when constructing under historic or special case existing buildings.</p>	<p>The Regional Connector Project has extensive vibration mitigation elements included in the design where the operating guidway passes nearby sensitive receptors including recording studios, music venues and hotels. The project also requires that noise and vibration monitoring be performed during construction near sensitive facilities.</p> <p>The lesson learned and responded to in the referenced Contract Modification, is that information gathered during construction monitoring should be used to adjust the designed mitigations where field conditions indicate they are necessary.</p>	<p>Completed with issuance of subject contract modification. Equipment to be installed 3rd quarter 2020</p>
<p>April 2020 #2 C1045 MOD-00098 Purple Line Sect. 1 Additional Air Scrubbers at Fairfax Station</p>	<p>The OIG recommends further questioning to Southern California AQMD to determine why on a previous Metro construction contract (at the same location) they set the emission limit at 50 parts per billion, and the published standards are set at an emission limit of 30 parts per billion. On this contract the limits are set at 15 parts per billion. The inconsistency of the emissions limit should be taken under consideration and request in writing from AQMD why the standard emission limit could not be applied to this permit.</p> <p>The OIG further recommends in future construction pre-bid meetings, disclose to all potential contractors that the AQMD permit values necessary for the technical specification, "Temporary Construction Ventilation for Scrubber Units" has varied in the recent past and to verify the amount with an AQMD representative. If possible a commitment needs to be obtained from AQMD by the contractor at the time of submission of a bid amount, that the standard is firm for a defined period.</p>	<p>The emissions limit for equipment was set at the time the Contractor submitted the specific ventilation plan to SCAQMD for permit.</p> <p>The SCAQMD does not have a set standard for hydrogen sulfide, but the states standard is 30 parts per billion. SCAQMD develops their requirements based on specific site conditions. Our EIR states Metro and its contractors will set and maintain work equipment and standards to meet SCAQMD standards.</p> <p>A letter will be sent to SCAQMD for clarification on how SCAQMD can consistently apply emissions regulations for hydrogen sulfide for Metro's future projects.</p>	
<p>April 2020 #3 C1120 MOD-00064 Purple Line Sect. 2 Geotechnical Instrumentation Installation and Monitoring AT&T and Beverly Hills High School</p>	<p>The OIG recommends that the independent estimator visit the field location concerning where the work for this change order will occur. The construction manager should walk the estimator through the scope of the changes for which they are developing a cost estimate. The independent estimate was a 126.7% lower than the negotiated price. Where such significant discrepancies in price estimates exist, either the estimator for Metro, or the estimator for the contractor needs to re-evaluate the scope of the change order.</p>	<p>Agreed. Moving forward the estimating group will endeavor to work even more closely with available subject matter experts to assure a thorough understanding of scope and of the engineering and construction processes involved.</p>	
<p>April 2020 #4 C1151 MOD-00001 Purple Line Sect. 3 Revise the Tail Track Exit Shaft Location from US Army Reserv to Veterans Affairs Property</p>	<p>If the Army Reserve location had been negotiated prior to the contract award, these amounts might have been included in the original bid, although the price then and now might have been the same for this different location.</p> <p>The OIG recommends Real estate arrangements should be negotiated as early as possible.</p>	<p>Metro agrees with the OIG's comment regarding the price of the change. The cost would roughly be the same whether it was negotiated prior to contract award or after award. We agree that real estate arrangements (agreements) should be negotiated as early as possible. The project initiated contact with the property owner for the Exit Shaft property acquisition after the project was identified to be accelerated from the original 2035 Revenue Service Date. Metro did engage in talks with the VA early in the Project but obtaining VA approval to access their property has not been without a few challenges that Metro was able to overcome.</p>	

ATTACHMENT B (January 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
Jan 2020 / #1 C0988-MOD-00437 Crenshaw/LAX UG1 (H2S) Ventilation Fans - Construction	none		
January 2020 #2 C0980 MOD-00154 Regional Connector - Acoustical Treatments for Areas Not on Finish Schedule	none		
January 2020 #3 C1045 MOD-00089 Purple Line Sect. 1 Development and On Site Validation of the Selected Gas Mitigation Option for M13	<p>While the soil at every site is unique, it is possible to create a standard for testing soils for gasses. There is no current rule or technical specification within Metro criteria for extraction of CH₄ or H₂S from the soil.</p> <p>The OIG recommends after the final report is submitted by the contractor, that a technical specification for testing be developed and written into the MDRC to use in the future.</p>	<p>PLE1 Final M13 Mitigation Report will be forwarded to Metro Geotechnical Department for their review and further processing.</p>	
January 2020 #4 C1045 MOD-00090 Purple Line Sect. 1 Oil Well Investigation In Lieu of TBM Probe Ahead	<p>The implementation of the drilling and magnetometer survey from Section 1 has been incorporated into Purple Line Extension Section 2 and 3 contracts.</p> <p>The OIG recommends that the procedures implemented for locating tanks, pipes and other abandoned waste be added to the Lessons Learned database.</p> <p>The OIG further recommends that Metro evaluates whether to pursue recovery for waste removal costs under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. Passed in 1980). The OIG recommends that Metro's Engineering Program Management provide information on this matter to Metro's Legal department to assist in making this determination and potentially pursuing this recovery.</p>	<p>PLE1 implemented methodologies for locating known tanks, pipes and other abandoned waste will be added to the Lessons Learned database. PLE1 notes that the hazardous waste removal is relatively small/negligible compared with the overall volume of soil removed. After reviewing the potential ROI on pursuing legal actions against any potential responsible parties for cost recovery the current determination based on the available data is that it is not worth the effort and cost at this time. However, it was decided that Metro County Counsel would provide a preliminary review on the issue and it would be revisited in the future.</p>	

Office Of Inspector General Construction Change Order Spot Check Report

Presented By
Karen Gorman
Inspector General

April 2022

Construction Committee

Los Angeles County Metropolitan Transportation Authority



Spot Check 1

File #
2022-0145

1 - Crenshaw/LAX Transit Corridor Project

❖ Landscape Changes – Park Mesa

\$3,636,214

Work to be completed

- Add irrigation in the medians
- Landscape the medians with shrub and ground cover

No Recommendations

April 2022

Construction Committee

Los Angeles County Metropolitan Transportation Authority



Spot Check 2

File #
2022-0145

2 - Regional Connector Transit Corridor Project

❖ Alameda Emergency Stair Exit (ES2)

\$2,199,000

Work to be completed

- Excavate area down to track level
- Pour concrete walls
- Install emergency stairs to street level

Recommendation:

The OIG recommends in-house plan review be as fully completed as possible before Metro groups sign off on the design plans.

April 2022

Construction Committee

Los Angeles County Metropolitan Transportation Authority



Spot Check 3

3 - Change Order for Purple Line Section 1

❖ Constructing La Cienega Station During Mining

\$15,879,565

Work to be completed

- Re-sequence construction at La Cienega station box
- Build a false floor 22-feet inside the station box
- Erect upper walls
- Construct upper concourse
- Build upper ceiling

No Recommendations

April 2022

Construction Committee

Los Angeles County Metropolitan Transportation Authority

Spot Check 4

4 - Change Order for Purple Line Section 1

❖ Vapor Extraction Street Restoration

\$1,087,452

Work to be completed

- Street rehabilitation along Wilshire Blvd.
- Asphalt replacement
- Median restoration
- Lane re-striping

No Recommendations

April 2022

Construction Committee

Los Angeles County Metropolitan Transportation Authority

Spot Check Schedule Comparison

File #
2022-0145

Schedule Comparison: new delegated process vs. former Board approval process

PROJECT	Title of Change Order	Time Saved Executed date to Board Mtg.	NEW Delegated Process final SOW to Executed date	Former Board Approval Process
CRENSHAW / LAX	Landscape Changes – Park Mesa	14	23	37
REGIONAL CONNECTOR	Alameda Emergency Stair Exit (ES2)	24	37	61
WESTSIDE PURPLE LINE SECT 1	Constructing La Cienega Station During Mining	23	47	70
WESTSIDE PURPLE LINE SECT 3	Vapor Extraction Street Restoration	37	38	75