



Board Report

File #: 2021-0591, **File Type:** Informational Report

Agenda Number:

CONSTRUCTION COMMITTEE OCTOBER 21, 2021

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 June 1, 2021 to August 31, 2021.

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 # 2021-0580) covering June 1, 2021 to August 31, 2021. 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 of the change orders in this report were:

- Negotiated and executed more expeditiously than would have occurred pursuant to the former Board approval process,
- Approved faster with the new delegation of authority, and
- Negotiated at 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, and
- Recommendations, if any.

Metro's Program Control department will provide 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 - Regional Connector - Transit Corridor Project

This OIG Spot Check report concerns the Regional Connector - Transit Corridor Project (Contract C0980 MOD-00206): Add Wye Junction Fan Plant - Construction

Change Order Detail

See Attachment A Spot Check #1 chart.

Summary #1

Scope of Work - This Modification is part 4 of 4 is for construction of a Wye Fan Plant System (Fan System) at the 1st Street and Alameda junction. (Part one was for the design in June 2016, MOD 0033, with an award of \$1,210,000. Part two was a revision to the design in March 2017, MOD 0087, with an award of \$76,000. Part three was to procure long-lead time mechanical equipment in November 2018, CO-00023, with an award of \$1,200,000.) Metro provided authorization for the contractor to proceed with Modification part 4 up to a not-to-exceed limit of \$11,000,000. The final costs of Modification part 4 Fan System, nevertheless, reached 18,700,000.

This new Fan System replaced the original eight Jet Fan Ventilation design. The new Fan System was jointly developed by the contractor and Metro and reviewed by Metro Fire Life Safety Committee. The new Fan System addresses the concerns of Metro Operations and Fire Life Safety by moving the air more efficiently while potentially having one of the fans shut down for repair at the interior junction of the converging/diverging tunnel segments. The funding for design and construction was approved by the Metro Board in December 2015. That approval was for \$12,000,000.

Budget -This modification was negotiated, and the award amount is \$18,700,000. The Contractor's proposal was \$22,031,075 and the ICE was \$18,526,511. The award amount was \$3,331,075 (15%) under the Contractor's proposal. The negotiated amount was \$173,489 (1%) 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 agreed upon scope of work occurred on June 7, 2021. The modification was awarded on June 16, 2021 and was completed in 10 workdays. Under the prior Board approval method for change orders, assuming a September Board meeting date, August was dark, it would have taken an additional 77 workdays to complete the work.

Recommendation - 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.

Spot Check #2 - Division 20 Portal Widening Turnback

This OIG Spot Check report concerns the Division 20 Portal Widening Turnback Project (Contract C1136 MOD 00020): Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project

Change Order Detail

See Attachment A Spot Check #2 chart.

Summary #2

Scope of Work - This project is built on an old fuel tank yard. It has differing site conditions due to the toxic soil removal, multiple unknown existing utilities, a 100-year old historical bridge that requires modification, and is an active heavy rail yard requiring Rail Operations Center (ROC) access.

The design prepared by the consultant was based on light rail standards and not an active heavy rail yard standard. Metro Operations has identified this as a safety issue during their review and requires a major change to the design layout of the tracks. The tracks must be spaced further apart to meet current national track standards for heavy rail. The standard Metro Rail Design Criteria (MRDC) was written for light rail. The Division 20 yard is to be used for heavy rail cars in order to serve the new Purple line rail tracks.

The Division 20 Project deadline for completion is prior to the delivery, storage, and testing of the new rolling stock of 150 heavy rail cars for Purple Line Ext. 1, 2, and 3. Because of the timeline, Project Management staff made the decision to move forward with the request for proposal for construction pending correction of the design errors. There were multiple design errors by the consultant. To account for these errors, a larger than typical contingency was included in the budget; 20%.

The large change order (\$43.3 mil.) is due to changes in the design to the track. The design was changed to reflect the correct spacing which necessitates multiple other changes. This change order is to demolish and remove a large amount of track, and install 6.2 miles of new track. The traction power sub-station, all the utilities, train car wash, lighting, and underdrains are to be demolished and rebuilt. The 100-year-old historical 1st Street bridge must have upgrades and the train portal north of 1st Street must increase in size to allow for more rail track to run through it.

Budget - The Life of Project (LOP) budget for this project is \$801,749,577.00, including a contingency of \$92,778,555. This change order will use about 50% of the 15% unallocated portion of this contingency amount. An increase in the LOP will be sought by end of year.

The Contractor's original proposal was \$52,530,836 and they reduced it to \$49,486,000. Thereafter workshops were held to review each line item of the Contractor's proposal. Metro identified items in the Contractor's proposal which were not allowed pursuant to the construction contract. The final

amount negotiated is \$43,300,000. The ICE was \$22,565,624. Primary reasons for the disparity between the contractor's price and the ICE is the Contractor's higher estimate of labor cost for hours to be worked (not the per hour rate), the number of equipment to be rented and period of use, how long each activity will take to complete, and the contractor is including a contingency for events likely to occur affecting time to complete tasks. There was little dispute about per unit pricing of materials, though there is a dispute about the quantity of materials needed to accomplish the job tasks. The award amount is \$6,186,000 (12.5%) under the Contractor's rebid proposal. The negotiated amount was \$20,734,376 (92%) over the ICE. Construction management staff believe the price might be reduced somewhat if a Dispute Resolution Board or other such option were utilized, but the delays resulting from utilization of such options would result in costs that exceed the reductions likely achievable so based on that risk, they feel this price is the most speedy and economical considering those risk factors.

Change orders generally occur in a noncompetitive situation and Metro as usual is attempting to proceed at high speed. When performing our construction change order spot checks we have observed many instances where Metro has agreed to a final price that is significantly higher than the ICE. This might be either because the ICE was too low or the contractor is estimating too high and the price could not be negotiated any lower within a reasonable time. Sometimes the percentage over the ICE is high but the dollar amount is not that significant. Noncompetitively procured change orders place Metro in an inferior bargaining position. The more extensive the planning, preparation, and pre-construction work, the lower the chances of large change orders.

Schedule - The new delegation process was utilized for this modification. The agreed upon scope of work occurred on June 25, 2021. The modification was awarded on August 9, 2021 and was completed in 31 workdays. Under the prior Board approval method for change orders, assuming a September Board meeting date, August was dark, it would have taken an additional 63 workdays to complete the work.

Recommendation - 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.

Spot Check #3 and #4 - Purple Line Extension Section 1 Transit Project

General - The two following modifications (137 and 138) for Purple Line Extension Section 1 are related. Both modifications are due to excess groundwater with high levels of sulfides which needed to be pumped out at the equipment transport shaft (the Shaft) where the tunnel boring machines were removed at the Wilshire and Western location. It is mandatory for the Shaft to be kept dry until underground construction is complete. Contractually these modifications are from differing site conditions, where the flow in gallons per minute (gpm) of the ground water was originally stated to be at 75 gpm in the Geotechnical Baseline Report (GBR) but that proved to be incorrect. The actual flow is at 350 gpm. This forced the contractor to devise solutions to remove the excessive groundwater and treat the groundwater before allowing the water into the city's storm drain system.

Maintenance of the dewatering wells is still required and the wells will continue to pump out water until construction is complete. The negotiated amounts for both these modifications have been forecasted through the end of construction; June 30, 2022.

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-0137): Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts

Change Order Detail

See Attachment A Spot Check #3 chart.

Summary #3

Scope of Work - Both the contractor and Metro took groundwater samplings which demonstrated that the water chemistry characteristics were causing corrosive buildup in the dewatering wells and water treatment system. The result was pump failures; well plunger cleaning treatments, backwash, filter fabric pressure washings, and well cleanings using hydrogen peroxide to avoid bacterial buildup. The cleanings will continue on a monthly basis until the end of dewatering operations when the station is substantially built (through approximately 2022). Three of the dewatering wells pumps were replaced due to corrosive build-up in December. 2018, January. 2019, and March 2019.

Excavation was impacted due to the installation of additional trenches, French Drain systems, and sumps that were needed below a 50-foot depth to control suspended water. Additional workers were hire that include a General Forman, Gas Testers, and Traffic Control staff performed work at Wilshire Blvd. on the wells.

Budget - This modification was negotiated, and the award amount is \$2,700,333. The Contractor's proposal was \$3,728,954 and the ICE was \$2,272,535. The award amount was \$1,028,621 (28%) under the Contractor's proposal. The negotiated amount was \$427,798 (19%) 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 agreed upon scope of work occurred on August 9, 2021. The modification was executed on August 10, 2021 and was completed in 1 workday. It should be noted that scope of work was agreed to on July 20, 2019, but due to the dewatering process continuing the contractor and Metro had an understanding to proceed with the work and complete the change order when the station was near completion. Under the prior Board approval method for change orders, assuming an October Board meeting date, it would have taken 58 workdays to complete the work.

Recommendation - See spot check #4 for the combined recommendation.

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-0138): Additional Dewatering Treatment and Discharge Impacts at Western

Change Order Detail

See Attachment A Spot Check #4 chart.

Summary #4

Scope of Work - Based on sampling data from MOD 137, the groundwater treatment system had to be redesigned to adequately treat hydrogen sulfide levels of 10.7 mg/l in accordance with federal dewatering discharge requirements and to accommodate the large volume of groundwater removal (75 gpm increased to 350 gpm) at the Shaft at Wilshire and Western.

This modification is for the engineering, design, and parts for a larger dewatering treatment system at the Shaft at Wilshire and Western. This system includes: 1) an increased pipe size (from 3-inch to 6-inch), 2) an increased magnetic flow meter (from 3-inch to 6-inch), 3) an increased pump size (from 10 hp to 30 hp units), 4) an in-line mixer system for the reduction of sulfides, 5) a 2,000-gal chemical storage tank with monthly chemical delivery, 6) two metering pumps with tubing, 7) new site safety equipment (shower, eyewash, and containment), and 8) a larger settling tank (from 8,000 to 20,000 gal.) and other equipment associated with a larger treatment plant.

Budget - These modifications were negotiated, and the award amount is \$3,109,648. The Contractor's proposal was \$3,721,859 and the ICE was \$3,077,031. The award amount was \$612,211 (16%) under the contractor's proposal. The negotiated amount was \$32,617 (1%) over the ICE. The agreed upon settlement covers plant operations and maintenance through June 30, 2022. 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 agreed upon scope of work occurred on June 24, 2021. The modification was executed on August 10, 2021 and was completed in 33 workdays. Under the prior Board approval method for change orders, assuming an October Board meeting date, it would have taken 89 workdays to complete the work.

Recommendation - 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.

FINANCIAL IMPACT

This report will have no Financial Impact to 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) \$18,700,000 Regional Connector Transit Corridor Project
- Spot Check #2) \$43,300,000 Division 20 Portal Widening Turnback Project
- Spot Check #3) \$2,700,333 Purple Line Extension Section 1
- Spot Check #4) \$3,109,648 Purple Line Extension Section 1

EQUITY PLATFORM

We considered whether these change orders presented any equity related issues on their face. All of the locations (Alameda and 1st Street in China Town, Division 20 at the old railroad tank yard and the 100-year old 1st Street Bridge updates, along with dewatering problem at Western and Wilshire in Korea Town which are the subject of these change orders are within or adjacent to Equity Focus Communities (EFC's). Each of the construction projects are required to install tall (over 20-ft high) sound walls around the construction work sites to protect residential communities and office suites from the nuisance noise of construction. The exterior public side of the walls also serve as community advertisement for local businesses and keep the public safe as a barrier from the construction activities. The OIG did not receive any data concerning 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 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 and CEO goals to exercise fiscal discipline to ensure financial stability. The OIG mission includes reviewing expenditures for fraud, waste, and abuse in Metro program, operations and resources. For each selected change orders 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.

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.

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 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 - Power Point for October 2021 Construction Spot Checks

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Karen Gorman
Inspector General

Spot Check #1 – Regional Connector Transit Project - Contract C0980**Change Order Detail**

<u>Description of Modification MOD-00206</u> Add Wye Junction Fan Plant - Construction	
<u>Change Order Dates:</u>	
Scope of Work approved	June 7, 2021
Modification Executed	June 16, 2021
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	10 work days
Estimate using former Board approval process Agenda for the September Board (no August Board)	77 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$18,526,511
Contractor's proposed cost	\$22,031,075
Negotiated amount	\$18,700,000
Percentage of negotiated amount over ICE	1%
Amount negotiated less than the Contractor's proposal	\$3,331,075

Spot Check #2 – Division 20 Portal Widening Turnback - Contract C1136**Change Order Detail**

<u>Description of Modification MOD-00020</u> Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project	
<u>Change Order Dates:</u>	
Scope of Work approved	June 25, 2021
Modification Executed	August 9, 2021
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	31 work days
Estimate using former Board approval process Agenda for the September Board (no August Board)	63 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$22,565,624
Contractor's REBID proposed cost	\$49,486,000
Negotiated amount	\$43,300,000
Percentage of negotiated amount over ICE	92%
Amount negotiated under Contractor's proposal	\$6,186,000

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

<u>Description of Modification MOD-00137</u> Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts	
<u>Change Order Dates:</u>	
Scope of Work approved	August 9, 2021
Modification Executed	August 10, 2021
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	1 work days
Estimate using former Board approval process Agenda for the October Board	58 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$2,272,535
Contractor's proposed cost	\$3,728,954
Negotiated amount	\$2,700,333
Percentage of negotiated amount over ICE	19%
Amount negotiated under Contractor's proposal	\$1,028,621

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

<u>Description of Modification - MOD-00138</u> Additional Dewatering Treatment and Discharge Impacts at Western	
<u>Change Order Dates:</u>	
Scope of Work approved	June 24, 2021
Modification Executed	August 10, 2021
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	33 work days
Estimate using former Board approval process Agenda for the October Board	89 work days
<u>Cost of Modification:</u>	
Metro independent cost estimate (ICE)	\$3,077,031
Contractor's proposed cost	\$3,721,859
Negotiated amount	\$3,109,648
Percentage of negotiated amount over ICE	1%
Amount negotiated under the Contractor's proposal	\$612,211

ATTACHMENT B (October 2021)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
October 2021 #1 Contract C0980 MOD-00206 Regional Connector - Transit Corridor Project Add Wye Junction Fan Plant - Construction	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.	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.	
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	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.	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.	
October 2021 #3 Contract C1045 MOD-0 137 Purple Line Extension Sect. 1 Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts	see #4 for recommendation		
October 2021 #4 Contract C1045 MOD-00138 Purple Line Extension Sect. 1 Additional Dewatering Treatment and Discharge Impacts at Western	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.	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.	

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
January 2021 #1 Contract C0980 MOD-00184 Regional Connector - Transit Corridor Project Expanded Duco Yard and Temple Street Sanitary Sewer Work	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.	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.	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.
January 2021 #2 Contract C1045 MOD-00121 Purple Line Extension Sect. 1 Alternate Soil Disposal	<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. 	
January 2021 #3 Contract C1120 MOD-0091 Purple Line Extension Sect. 2 Increase UPS Spare Capacity at Wilshire Rodeo and Century City Constellation Stations	The OIG recommends that immediately prior to sending out an RFP, Metro should insure that the most current MRDC is used.	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.	

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
October 2020 #1 Contract C0988 MOD-00485 Crenshaw/LAX Transit Corridor Project Case 5 Bedding Required by LABOE	<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>	Recommendation will be incorporated into C/LAX project Lessons Learned.	
October 2020 #2 Contract C1045 MOD-00111 Purple Line Extension Sect. 1 Fairfax Paleo Zone Modified Limits	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.	Recommendation will be incorporated into PLE1 project Lessons Learned.	
October 2020 #3 Contract C1120 MOD-00080 Purple Line Extension Sect. 2 Demobilization and Remobilization due to COBH Moratorium	<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>	Agreed.	
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>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>	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.	

ATTACHMENT B (October 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
October 2020 #5 Contract C1151 MOD-0005 Purple Line Extension Sect. 3 Addition of Sepulveda Staging Area to Compensate VA Site Reduction	<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
<p>August 2020 #1 Contract C1045 MOD-00095 Purple Line Extension Sect. 1 Transit Project: Phase 5 Golder EOR Mitigation Plan Implementation</p>	<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>	
<p>August 2020 #2 Contract C1045 MOD-00106 Purple Line Extension Sect. 1 Center Muck Shaft at La Brea (ECI-03)</p>	<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>	
<p>August 2020 #3 Contract C1045 MOD-00107 Purple Line Extension Sect. 1 Center Muck Shaft at La Brea (ECI-03)</p>	<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
August 2020 #4 Contract C1120 MOD-00073 Purple Line Extension Sect. 2 Century City Constellation Station Track work Extension	<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
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>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>	Completed with issuance of subject contract modification. Equipment to be installed 3rd quarter 2020
April 2020 #2 C1045 MOD-00098 Purple Line Sect. 1 Additional Air Scrubbers at Fairfax Station	<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>	
April 2020 #3 C1120 MOD-00064 Purple Line Sect. 2 Geotechnical Instrumentation Installation and Monitoring AT&T and Beverly Hills High School	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.	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.	
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>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>	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.	

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

October 2021

Construction Committee

Los Angeles County Metropolitan Transportation Authority



Spot Check 1

File #
2021-0591

1 - Regional Connector Transit Corridor

❖ Add Wye Junction Fan Plant - Construction **\$18,700,000**

- 2015 Fan Plant Budget Board Approved = \$12mil.
- 2021 Fan Plant Actual Expense = \$21 mil. (77% increase)
- Fan Plant cost reported in pieces, as parts completed, but not as a whole
- Cost creep overall over time

Recommendation:

- Periodically provide to the Board a summary, per project, to show all historical cost increases over life of each project.
- Indicate anticipated LOP increases and how many LOP increases have occurred so far.



October 2021

Construction Committee

Los Angeles County Metropolitan Transportation Authority

Spot Check 2

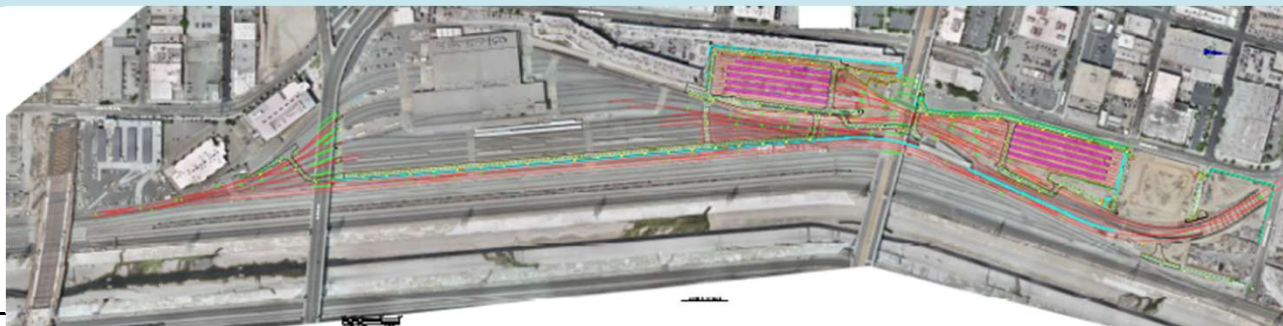
2 - Division 20 Portal Widening Turnback

- ❖ Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project **\$43,300,000**

- Consultant prepared design using Light rail std. and Not active heavy rail yard std.
- Operations review identified as safety issue/ requires major design change to track layout

Recommendation:

- Include Operations prior to design for their constant input on initial planning.
- Provide Operations with a dedicated full time person to assist in planning, design, and pre-opening implementation phases for infrastructure/capital projects.
- Legal Department to determine if consultant can be held accountable, liable, and enforceable through insurance, bonds, or otherwise to cover large errors of this magnitude.



October 2021

Construction Committee

Los Angeles County Metropolitan Transportation Authority

Spot Check 3 and 4

File #
2021-0591

3 - Change Order for Purple Line Section 1

- ❖ Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts **\$2,700,333**

4 - Change Order for Purple Line Section 1

- ❖ Additional Dewatering Treatment and Discharge Impacts at Western **\$3,109,648**
- The Geotechnical Baseline Report was not accurate for the soil type, ground water, and hydrogen sulfide levels
- 2020 Dewatering at La Brea Station = \$15.8 mil.
- 2019 Dewatering at La Cienega Station = \$16.8 mil.

Recommendation:

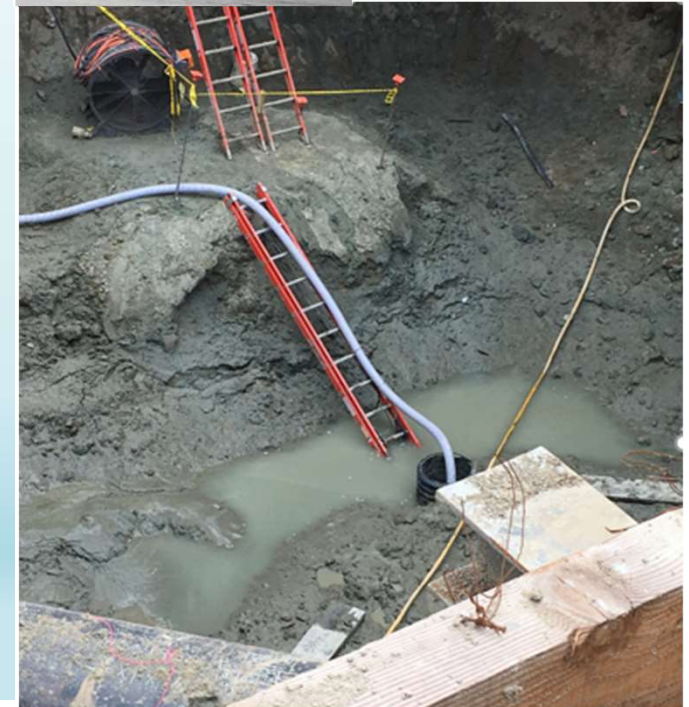
- The OIG recommends that all dewatering change orders for this project should be evaluated or audited.
- Legal Department to determine if consultant can be held accountable, liable, and enforceable through insurance bonds to cover large errors of this magnitude.



½" Garden hose
8 to 12 gpm



1 ½" Fire hose
150 to 180 gpm



Wilshire & Western
pumping 350 gpm

October 2021

Construction Committee

Los Angeles County Metropolitan Transportation Authority

Spot Check Schedule Comparison

File #
2021-0591

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
REGIONAL CONNECTOR	Add Wye Junction Fan Plant -Construction	67	10	77
DIVISION 20 PORTAL WIDENING TURNBACK	Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project	32	31	63
WESTSIDE PURPLE LINE SECT 1	Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts	57	1	58
WESTSIDE PURPLE LINE SECT 1	Additional Dewatering Treatment and Discharge Impacts at Western	56	33	89

Spot Check Costs

Summary of Selected Change Order Costs

Four OIG spot checks of Change Orders / Modifications reported

1 Change Order for Regional Connector Transit Corridor

❖ Add Wye Junction Fan Plant - Construction = \$18,700,000

2 Change Order for – Division 20 Portal Widening Turnback

❖ Additional Scope and Additional Requirements for the Division 20 Portal Widening and Turnback Project = \$43,300,000

3 Change Order for Purple Line Section 1

❖ Increased Well Maintenance at Western Shaft due to Groundwater Chemistry Impacts = \$2,700,333

4 Change Order for Purple Line Section 1

❖ Additional Dewatering Treatment and Discharge Impacts at Western = \$3,109,648