

Memo

Date: August 19, 2016
To: Cost Review Committee
From: Ron Alameida/Dennis Turchon
Re: Committee Meeting of August 24, 2016 Agenda Item 5b - Contract Change Orders (CCO) and Change Order Requests (COR) for Concurrence

TG07.1 – Structural Steel

Change Order Request (COR) 310296.1 – Sand Inclusions in Bus Deck Level Cast Node Pads - \$672,750

This COR is for Steel Cast Node Sand Inclusions. Additional machining depth was required on the Cast Node weld surfaces to remove sand particles which were set into the Cast Node steel during fabrication process. The sand particles were embedded beyond a typical depth found in a normal steel fabrication process and removal was deemed additional work per the contract. In an April 2015 agreement settling multiple claims, TJPA and the Construction Manager/General Contractor Webcor/Obayashi Joint Venture (WOJV) agreed to this amount for this scope. The COR is expected to be incorporated into a CCO in an amount not to exceed \$672,750 and issued in September.

TG07.2 – Above Grade Structural Concrete

CCO 231 – Metal plates for short curbs on metal deck - \$325,000

This CCO adds metal plates on the metal deck at the ground and bus deck levels to support deformed bars for curbs that are 8” high or shorter in response to Request for Information (RFI) T-3184. These curbs originally did not call for plates for short curbs and the plates were added in this RFI to aid in stability of the support of the curbs on the metal deck. This CCO also includes costs for metal plates at tall curbs on the Second, Bus Deck, and Roof Levels that were unbought in contract scope between Gridlines (GL) 10 and 20. Due to the timing of the award of packages, TG07.2 needed to provide these plates to maintain schedule. The balance of these plates were bought with the TG07.6 (Topping Slabs, Bus Crash Rails and Expansion Joints) award. This CCO in an amount not to exceed \$325,000 is anticipated to be issued in September.

COR 310608 – Block-outs for W2 and pourback - \$400,000

This COR is for the W2 curtain wall system embeds, block-outs, and pourback of curbs. The need for these embeds to meet design criteria was identified through the design/build process for the W2 curtain wall. Several RFIs were written to clarify locations, placement, and block-out areas not yet designed, including RFIs T-3065.1, 3163, and 3128. These costs are for the additional work for blocking out, forming and placing embeds, and any additional charges for remobilization of pouring blocked out areas. The COR is expected to be incorporated into a CCO in an amount not to exceed \$400,000 and issued in September.

Change Request –Terminal (CR T)-128/185 – Architectural Supplemental Instructions (ASI) 128 & 138 – Added Lower Concourse Partition Walls - \$368,000

This CR adds partition walls and dowels at the Lower Concourse Level in accordance with Architect's Supplemental Instructions (ASI) 128 and 138. The cost of this CCO includes additional rebar, formwork, concrete, and all labor and equipment necessary to install walls at rooms B1381, B1563, and B1642. ASIs 128 and 138 incorporated revisions due to RFIs and Bid Questions into the contract documents. The CR is expected to be incorporated into a CCO in an amount not to exceed \$368,000 and issued in September.

CR T-242 – East and West Zone Acceleration - \$800,000

This CR is for premium time only for WOJV schedule mitigation at concrete curbs, decks, and dry finishing, roof top perimeter walls, concrete walls, and interior walls. The accelerated contract work is in the East and West Zones, Ground level through Roof level and includes additional sets of form work at interior walls and roof level walls, including perimeter wall. The acceleration started in the West Zone on March 4, 2016, and runs through September 2016. Work in the East Zone started on April 28, 2016, and runs through August 2016. Dry finish work started on March 22, 2016, and runs through October 2016. The acceleration was deemed necessary so as to recover schedule due to preceding activities from Skanska's steel installation. The CR is expected to be incorporated into a CCO in an amount not to exceed \$800,000 and issued in October.

COR - Curb Modifications due to W System interfaces to meet RVA criteria - \$1,000,000

This COR is for additional work associated with curbs, block-outs, embeds and attachments associated with the W System revisions due to risk and vulnerability assessment and design-build requirements. These costs include additional reinforcing, formwork, embeds and attachment steel, and remobilization costs associated with pouring back the concrete including labor and equipment. This work is at Ground Level through Roof Level. The COR is expected to be incorporated into a CCO in an amount not to exceed \$1 million and issued in October.

TG07.6 – Topping Slabs, Bus Crash Rail, and Expansion Joints

COR 311157 – Mat slab walls at Water Storage tank - \$350,000

The scope to be procured under this COR is part of the original buyout and has been included in the budget but was not included in any previously awarded trade package. It includes furnishing and installing the upper portion of the water storage tank walls (rooms B2227 and B2223) between the mat slab and Lower Concourse. The water storage tank walls extend the entire vertical length between the mat slab and Lower Concourse, but are divided by a tank lid 18'-3" above the mat slab. These walls would typically be included in the TG06.0 Trade Subcontractor's scope of work but various places in the contract drawings noted "Conc wall at top of tank not in TG06." Therefore, the upper portion of the tank walls were excluded from the TG06 Trade Package and were bought out from the TG07.6 Trade Subcontractor to complete the wall. The COR is expected to be incorporated into a CCO in an amount not to exceed \$350,000 and issued in September.

CR T-172 – ASI 137 - Added seismic joint at Salesforce Tower Bridge - \$694,000

This CR is for additional work associated with ASI 137 – an added seismic joint and concrete infill at the seismic joint between the Salesforce Tower pedestrian bridge to the Transbay Terminal Center at the Roof Level. These costs include all labor and material to install the seismic joint at the bridge. These costs are to be reimbursed by the developer of the Salesforce Tower project,

Boston Properties, through an agreement already in place. The CR is expected to be incorporated into a CCO in an amount not to exceed \$694,000 and issued in October.

TG08.11R – Glass Curtain Walls & Skylights

CR T-273 – Glazing Door Hardware Package - \$450,000

The scope to be procured under this CR is part of the original buyout and has been included in the budget but was not included in any previously awarded trade package. It includes furnishing and installing the electrified openings per the design team contract documents' performance expectations, the exit devices with Quiet Electric Latch Retraction, the power supplies with the proper amperage dependent on the number of devices and auto operators, the Electric Power Transfer, the pivot hinges, and all stainless steel components.

At the time of award of this trade package, the TG8.11R Design-Build Trade Subcontractor, Crown Corr, proposed W2 swing doors as stainless steel-clad medium style aluminum doors with standard hardware, in lieu of the all glass doors with specified glass door hardware, as a value engineering (VE) offer saving \$995,000. The proposal was accepted, and the design team then provided recommendations for the minimum hardware required to meet the quality and performance objectives found in the original specifications, the goal of which is to aid in future maintenance and operation costs. The CR is expected to be incorporated into a CCO in an amount not to exceed \$450,000 and issued in September.

TG10.2 – Plumbing

CR T-128 – ASI 128 - Incorporated RFI/QBD responses up to October 17, 2014 and implemented previously issued VE markups and accepted Alternates - \$1,486,000

This CR relocates and/or removes specified heat pumps, adds area drainage, reroutes storm line, relocates a gas riser, removes work associated with prefabricated guard booths, and relocates vents from Lower Concourse through Roof Level. The costs include all additional piping, drains, and labor & equipment associated with these changes. All of these changes are due to post-bid accepted alternates, VE adjustments and Department of Building Inspection comment incorporation. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$1,468,000 and issued in September.

TG10.4 – Electrical, Communications, Security & Integrated Networks

CR T-155 – ASI 134 - Incorporate the Phase 1.5 pathways to support the Emergency Responder Radio Communications System - \$1,100,000

The scope to be procured under this CR is part of the original buyout and has been included in the budget but was not included in any previously awarded trade package. It includes providing labor and materials to install the pathways to support the Emergency Responder Radio Communications System (ERRCS). The documents change the locations of the ERRCS antennae and add a substantial amount of antennae to the system. The scope includes all pathways, back boxes, etc. and are required to be installed per NFPA 72 and all applicable local codes. The proposed amount was originally \$3.7 million; however, TJPA requested that the price for the survivability wrapping be excluded, and wherever possible that conduit be embedded in concrete to achieve the 2-hour fire code rating requirement. Any residual effort to address survivability required per code not covered by the above-mentioned means will be handled in a future CCO. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$1,100,000 and issued in September.

TG13.2 – Roofing/Waterproofing

CR T-206 – ASI 128, 137, and 138 – W-2 Roof Trellis and W-2 Outrigger - \$435,000

The scope to be procured under this CR is part of the original buyout and has been included in the budget but was not included in any previously awarded trade package. It includes furnishing and installing the prefinished aluminum components for the W-2 serpentine outrigger framing and the W-2 prefinished aluminum trellis for the roof park restaurant as shown in ASI 128. This scope also furnishes and installs the W-17 green screen bottom support that anchors to the concrete knee walls at the roof park restaurant as shown in ASI 137 and 138. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$435,000 and issued in September.

TG16.8 – Fireproofing

CR T-128 – ASI 128 - incorporated RFI/QBD responses up to October 17, 2014 and implemented previously issued VE markups and accepted Alternates - \$261,000

The scope to be procured under this CR is part of the original buyout and has been included in the budget but was not included in any previously awarded trade package. It includes providing additional fireproofing as shown on contract documents per ASI 128, which was issued post-award of Trade Package TG16.8. ASI 128 includes fireproofing the added steel at the roof park restaurant, applies fireproofing to the added beam for the deck adjacent to ST-501, and applies fireproofing to the added steel to support intermediate landing at ST-601A and ST 405. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$261,000 and issued in September.

TG18.1 – Bus Ramp

Change Request Bus Ramp (CR B)-043 – Hinge 8 Expansion Joint Modifications - \$736,000

This CR is for work associated with ASIs 150-015 and 150-016. These costs are for revisions to Hinge 8 to increase movement in the seismic joint and revisions to the adjacent concrete frame at the cable stay bridge. Costs include additional rebar, formwork, labor, and equipment to complete installation. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$736,000 and issued in September.

CR B-046 – Hinge 9 Modifications - \$475,000

This CR is for work associated with ASI 150-014, 016, and 018. These costs are for revisions to Hinge 9 to increase movement ratings in the seismic joint and revisions to adjacent concrete frame at the north end of the cable stay bridge. Costs include additional rebar, formwork, labor, and equipment to complete installation at the north side of the cable stay bridge. This CR is anticipated to be incorporated into a CCO in an amount not to exceed \$475,000 and issued in September.

CCO Summary Log for CRC

8/19/2016

Trade Package	CCO/CR No.	NTE Value	Date submitted to CRC	Date Concurred by CRC	Amount Concurred by CRC	CCO Final Approved Amount	Fund Source	CCO Issue
7.1	COR 310296.1	\$672,750.00	8/19/2016				TJPA/WOJV Settlement	Removal of Sand Inclusions in Bus Deck level cast node pads embedded beyond the typical depth of normal steel fabrication and deemed additional work.
7.2	CCO231	\$325,000	8/19/2016					Added plate to short curbs to support deformed bars per RFI T-3184 and added plates for tall curbs between Gridlines 10-20.
	COR 310608	\$400,000	8/19/2016					Added embeds, blockouts and pour backs for cubs related to W2 system.
	CR T-128/185	\$368,000	8/19/2016					Install additional rebar, formwork and concrete for Partition walls at Lower Concourse per ASI 128/138.
	CR T-242	\$800,000	8/19/2016				CM/GC Contingency	Schedule Recovery for TG 7.2 scope, premium time only, using CM/GC Contingency per contract.
	COR	\$1,000,000	8/19/2016					Curb modifications due to W System interfaces to meet RVA and design build criteria.
7.6	COR 311157	\$350,000.00	8/19/2016				Scope Procurement	Installation of Mat slab walls at Water Storage tank previously not procured.
	CR T-172	\$694,000.00	8/19/2016					Added seismic joint at Salesforce Tower Pedestrian Bridge per ASI 137
8.11R	CR T-273	\$450,000.00	8/19/2016				Scope Procurement	Procurement of Glazing Door Hardware Package previously not procured.
10.2	CR T-128	\$1,486,000	8/19/2016					Revisions and additions to plumbing system per ASI 128.
10.4	CR T-155	\$1,100,000	8/19/2016				Scope Procurement	Procurement of the pathway that supports the Emergency Response System per ASI 134
13.2	CR T-206	\$435,000	8/19/2016				Scope Procurement	Procurement and installation of the W2 Roof Trellis and Outriggers per ASI 128 and 138
16.8	CR T-128	\$261,000	8/19/2016				Scope Procurement	Installation of the Rooftop Restaurant Fireproofing per ASI 128.
18.1	CR B-043	\$736,000	8/19/2016					Revisions to the Bus Ramp Cable Stay Hinge 8 Expansion Joint per ASI 150-015.
	CR B-046	\$475,000	8/19/2016					Revisions to the Bus Ramp Cable Stay Hinge 9 Expansion Joint per ASI 150-016.
Totals		\$9,552,750						

MODS and amounts paid directly by WOJV (not thru TJPA) are not included in this estimate
 Executed CCO's will be included in WOJV's Cash Flow and are not included in this estimate

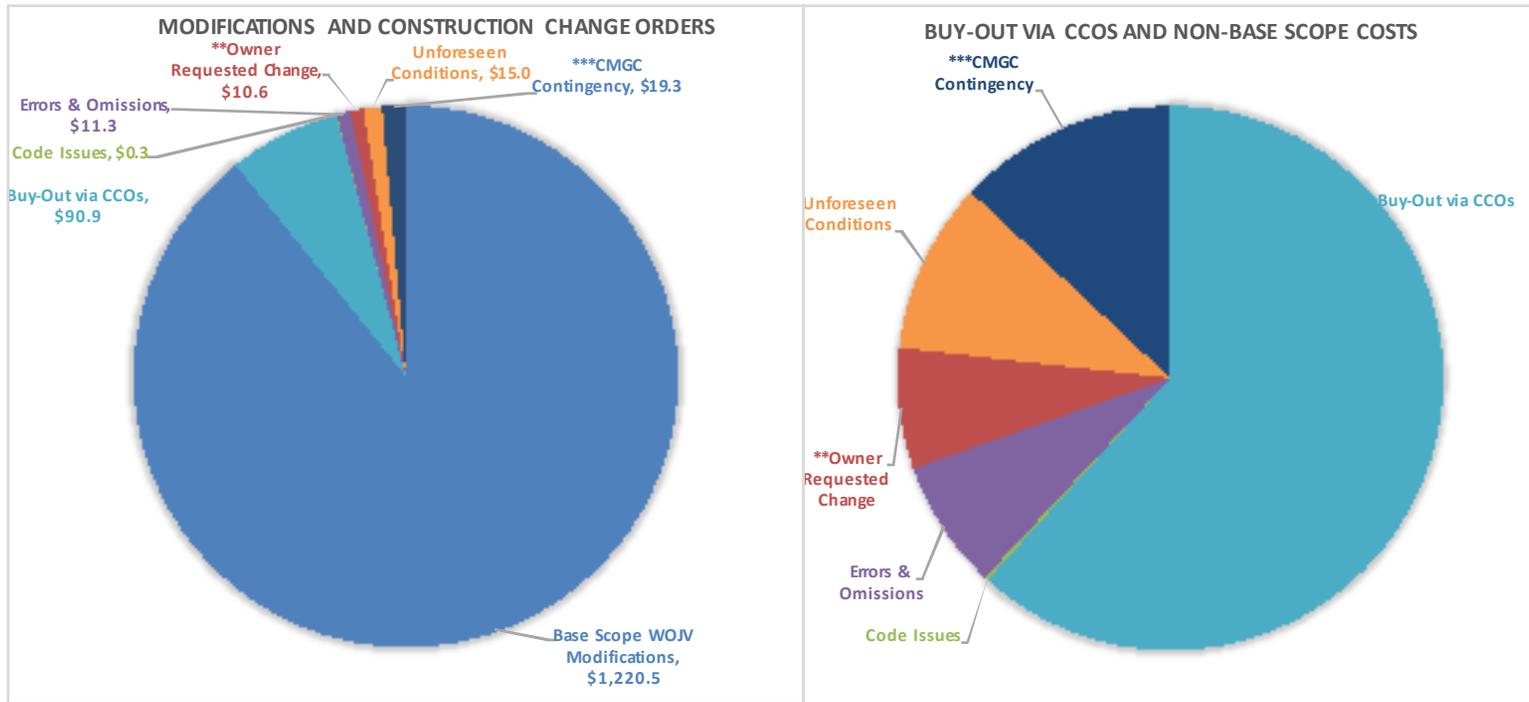
Trade Packages:	
7.1	Structural Steel
7.2	Structural Concrete
7.6	Topping Slabs, Bus Crash Rail and Expansion Joints
8.11R	Glass Curtain Wall/Skylights
10.2	Plumbing
10.4	Electrical
13.2	Roofing/Waterproofing
16.8	Fireproofing/Intumescent Spray
18.1	Bus Ramp



TRANSBAY JOINT POWERS AUTHORITY

Modifications and Construction Change Orders as of August 2016 (In Millions)

*Contract Sum to date (in Millions)	Base Scope WOJV Modifications	Buy-Out via CCOs	Code Issues	Errors & Omissions	**Owner Requested Change	Unforeseen Conditions	***CMGC Contingency	Total of Non-Base Scope Costs
\$1,367.9	\$1,220.5	\$90.9	\$0.3	\$11.3	\$10.6	\$15.0	\$19.3	\$56.4
	89.23%	6.65%	0.02%	0.83%	0.77%	1.09%	1.41%	4.13%



- * Contract Sum does not include General Contractor Reimbursable Expenses
- ** Includes Third Party Reimbursable CCOs and Owner Directed Schedule Mitigation
- *** Includes Coordination Issues, Settlement Items, and Schedule Mitigation

Executed CCOs as of 8/18/16