



**Governance and Priorities Committee Report
For the Meeting of November 19, 2015**

To: Governance and Priorities Committee **Date:** November 13, 2015
From: Jonathan Huggett, P. Eng.
Subject: Johnson Street Bridge Replacement Project Quarterly Update

RECOMMENDATIONS:

That City Council:

1. Approve an increase to the project budget of \$2.253 million with funding from the Building and Infrastructure Reserve.
2. Direct staff to transfer to the Building and Infrastructure Reserve any costs recovered from other parties.
3. Direct staff to bring forward an amended Financial Plan Bylaw to the November 26, 2015 Council meeting.

EXECUTIVE SUMMARY

Quarterly reports are prepared on the Johnson Street Bridge Replacement Project throughout the year to keep Council and the community updated on this important project. This is the third quarterly report for 2015, with the next one scheduled for February 2016. Should any emergent issues arise, staff will provide an immediate update to Council.

Since the update on July 16, 2015, the project schedule has been revised to reflect further delays in the delivery of the structural steel. The schedule has been updated to reflect the new bridge opening to traffic in late summer 2017 (last identified as spring 2017). The project is expected to complete by early 2018 (last identified as fall 2017). Ongoing delays to the fabrication of the steel in China continue. The fabrication of this bridge is complex and challenging and the first priority is to get it right from a quality perspective. While important progress on steel fabrication has been made, we are still experiencing difficulties with fabrication of rings and trusses.

Regarding steel fabrication and delivery, steel is now projected to arrive on site towards the end of 2016 and erection is projected to commence in early 2017.

The update on July 16, 2015 resulted in the approved budget for the Johnson Street Bridge Project being increased from \$94.3 million to \$96.854 million. On July 23, 2015 Council approved a budget increase of \$2.554 million with funding from the Building and Infrastructure Reserve. This budget increase was officially approved by Council on August 27, 2015, through an amendment to the Financial Plan Bylaw. Transport Canada and UBCM, federal grant funding partners for the project, have been notified of this information.

Additional funding in the amount of \$2.253 million is being requested to cover known and quantified financial commitments. Other yet to be determined costs, such as fendering and other items will be presented in subsequent submissions.

Council has directed staff to request funds as required. These additional costs include additional professional consulting services, unforeseen ground conditions, city support resourcing, legal costs, and pending change orders. Therefore, it is recommended that an additional budget of \$2.253 million be approved with funding from the Building and Infrastructure Reserve. The Reserve balance projected at December 31, 2015 is \$28 million.

The City is seeking to recover some of these costs through the mediation process where applicable, and costs recovered will be returned to the Building and Infrastructure Reserve.

There remain unresolved issues including ongoing changes to various aspects of the project, costs of fendering, public realm, claim for additional professional consulting services, legal, insurance and mediator, and additional material costs. The total of these costs have not yet been determined; however, the total is significant and will require additional funding. Council will be provided with updates as further information becomes available.

Mediation regarding various claims for additional costs by both PCL and MMM and its sub-consultant is on-going with the exchanges of information between the parties taking place in expectation of the first of several formal mediation sessions, starting in early March 2016. The mediation task is extensive with the exchange of large and comprehensive documents, expert testimony and various preparatory meetings, and requires an extensive time commitment from staff, consultants and legal counsel.

In October a workshop on the public realm areas around the Johnson Street Bridge was held. The event was attended by stakeholders including the Downtown Residents Association, the Victoria West Community Association, the Downtown Victoria Business Association, Reliance Properties, Merrick Architecture, members of the City's new Accessibility Task Force, the Delta and Swans hotels, Ralmax, members of Council, other technical experts and City staff. The sessions included discussions around use of space, connectivity, accessibility, and opportunities for art and placemaking. The intent of the workshop was to develop options for the public realm areas for broad public input. Before proceeding to broader public engagement, a report on the results of the workshop along with initial concept plans will be shared with Council at the December 3 Governance and Priorities Committee meeting.

PURPOSE

As directed by Council, staff provides quarterly reports on the Johnson Street Bridge Replacement Project throughout the year. The purpose of this report is to provide an update to Council and to seek an increase to the project budget. This is the fourth and final report for 2015, with the next update scheduled for February 2016.

SCHEDULE UPDATE

Since the update on July 16, 2015, the project schedule has been revised to reflect further delays in the delivery of the structural steel. The schedule has been updated to reflect the new bridge opening to traffic in late summer 2017 (last identified as spring 2017). The project is expected to complete by early 2018 (last identified as fall 2017). Ongoing delays to the fabrication of the steel in China continue. The fabrication of this bridge is complex and challenging and the first priority is to get it right from a quality perspective. While important progress on steel fabrication has been made, we are still experiencing difficulties with fabrication of rings and trusses.

In the last three weeks, the ring fabrication is currently on hold pending resolution of technical difficulties which are being addressed as an urgent matter. Regular conference calls with all of the key technical advisors have been a priority. PCL's Project Manager will again be traveling to China in the next week to review progress. A solution to the current problems is the number one priority for all advisors and it is expected that work on the rings will re-start within two weeks.

Regarding steel fabrication and delivery, steel is now projected to arrive on site towards the end of 2016 and erection is projected to commence in early 2017.

Financial Implications

The approved budget for the Johnson Street Bridge Project is \$96.854 million as of July 2015.

As of October 31, 2015, actual costs of \$60.404 million have been incurred, including the following:

1. MMM has invoiced \$9.064 million from the budget of \$9.362 million. This reflects the following professional services: project management, design, procurement, administration, geotechnical engineering, and permits.
2. MMM has invoiced \$1.658 million of the \$1.913 million in additional services funded from the contingency. These services include: owner's quality control for the steel fabrication, the steel detailing workshop, supplementary services, unforeseen geotechnical engineering, utility mapping, seismic design review, additional designing, redesigning navigational lighting, joint footing review, review of non-conformance reports, multi-colour lighting review, H&H claims 1 & 2, fendering design, redesign for LED fixtures, redesign control room frame, custom traffic pole base, walkable service review, and the pedestrian bridge rendering
3. PCL has invoiced \$35.420 million, representing 56.01% of the \$63.235 million original contract price. PCL has invoiced an additional \$523,073 of the \$879,137 budgeted from the contingency. These services include: cofferdam, creosote, bedrock, concrete vault, asbestos pipe, sharps and hazardous waste disposal, relocation of generator load bank, fender anode installation, subgrade excavation for retaining wall #2, installation of a street light pole, additional CCTV cameras, installation of rip rap, multi-use trail pedestrian overpass changes, anti-graffiti coating, wall embeds for fenders, traffic signal arm changes and conduit and wiring at Harbour road.

Council's approval on March 26, 2015 of \$1.5 million and on July 9, 2015 of \$2.554 million additional contingency, plus value engineering savings of \$300,000, brings the original \$2.515 million contingency to a revised amount of \$6.869 million. At October 31, 2015 \$4.430 million has been allocated, leaving a remaining \$2.439 million unallocated.

The Summary of Anticipated Additional Costs (Appendix C) identifies total unallocated anticipated costs of \$4.692 million. This balance consists of costs identified on the July 9th, 2015 report to Council that have not yet become payable, as well as costs for which further information became available

subsequent to that report. Included in this amount are estimated insurance costs, additional city support costs, professional consulting services, habitat compensation, changes to CCTV cameras, environmental permitting, unforeseen geotechnical and subsurface issues, legal costs, mediator fees, contaminated soil removal, and additional potential change orders.

After applying the \$2.439 million unallocated portion of the contingency budget, the result is an estimated \$2.253 million funding shortfall. Therefore, staff recommend that Council allocate additional contingency funding of \$2.253 million to be provided by the Building and Infrastructure Reserve. This reserve has a projected balance of \$28 million as of December 31, 2015.

The following table summarizes this request:

Table 1. Summary of Contingency Funding

	Known to Oct 31, 2015
Original project completion contingency	2,515,000
Add: Value Engineering Savings	300,000
Approved Funding March 2015	1,500,000
Approved Funding July 2015	2,554,000
Project Completion Contingency July 2015	\$ 6,869,000
<u>Costs identified to July 2015:</u>	
Insurance	70,892
City support costs	465,680
Professional services	3,606,052
Construction contract	2,284,009
Legal costs for mediation	513,259
Contingency identified to July 2015	\$ 6,869,000
<u>New identified costs:</u>	
Insurance	370,000
City support costs	140,000
Construction contract	275,693
Environmental permitting	75,000
Additional potential change orders	744,259
Legal costs for mediation	648,247
Additional contingency funding request to October 2015	\$ 2,253,199

The City will seek to recover these costs through the mediation process where applicable, and any costs recovered would be returned to the Building and Infrastructure Reserve.

There remain a number of unresolved issues that will require further additional funding including costs of fendering, claim for additional professional consulting services, public realm, insurance adjustment, city support costs, and increased quantities of materials required. At this point, the total cost is yet to be determined for many of these items, but the amount is significant and will require additional funding. Council will be provided with updates as further information becomes available.

For a detailed account of the current Johnson Street Bridge budget, contingency items, and schedule of anticipated costs, please see appendices A, B, and C.

It should also be noted that the additional funds requested in this report do not include an amount for either the Contractor's or the Consultant's claims which are subject to mediation.

There are limited options for the City other than to complete the project and seek resolution of additional costs, where applicable, through the mediation or litigation process.

CONSTRUCTION PROGRESS

Construction Progress

Over the last few months many significant milestones have been reached on construction resulting in very tangible achievements visible to the public. The most significant of which was the work performed by the crew of the Arctic Tuk. The Arctic Tuk, one of the largest barge mounted cranes on the west coast, was brought in to install over 50 precast girders. These girders form the base of what will be the deck of the new bridge. This work required a closure of the waterway to all marine traffic and the cooperation of many stakeholders.



View from the edge of the bascule pier up Pandora. Girders seen will form the deck of the new bridge.

West Approach

On the west approach construction on the pedestrian overpass has started. This connection will provide access from the Galloping Goose trail to the E&N Trail.



Looking south from the future pedestrian overpass location to the future E&N connection

The final layer of asphalt has been installed on Harbour and Esquimalt Roads completing most of the west side road works that can be done prior to the installation of the new bridge. A new bike box has also been installed on Harbour Road at Esquimalt to provide better access to Galloping Goose users commuting into downtown.



Paving equipment operating near the south end of Harbour Road

A new wall at 203 Harbour Road has been completed. This wall separates the public right of way for the multi-use trail from the adjacent Ralmax property currently being used as the PCL site office.



New looking west from the east end within the 203 Harbour Road site

Water Crossing Site

The bascule pier structure has reached substantial completion. All concrete has now been poured to form the shape of the pier including walls, floor and other structural components.



Looking down into the bascule looking west from the edge of the new bridge deck.

Rest Pier protection

Protection for in water structures has begun. Floating protection on the rest pier and piles fronting the west side of the bascule pier have been installed providing an increased measure of protection in addition to the future fendering currently in preliminary stages.



Floating rest pier can be seen at water level. This protection device rises and falls with the tide.

Old rail span removal

The last of the old rail spans was removed in September by the Artic Tuk. This was significant in marking what is essentially the last of the old rail bridge.



Arctic Tuk lowering the last rail span on the deck of its barge.

Temporary trestle removals

PCL has also removed the last of the temporary trestles that were built to construct the new in-water works such as the bascule pier.

East Approach

The East approach of the bridge site has seen significant work in the last few months including extensive work to public space near the Michael Williams statue, frontages of Store Street and future area near the new Janion building. New road alignments, curbs, street lights, intersection signalization as well as extensive underground works has been completed on the east side.

David Foster Harbour Pathway

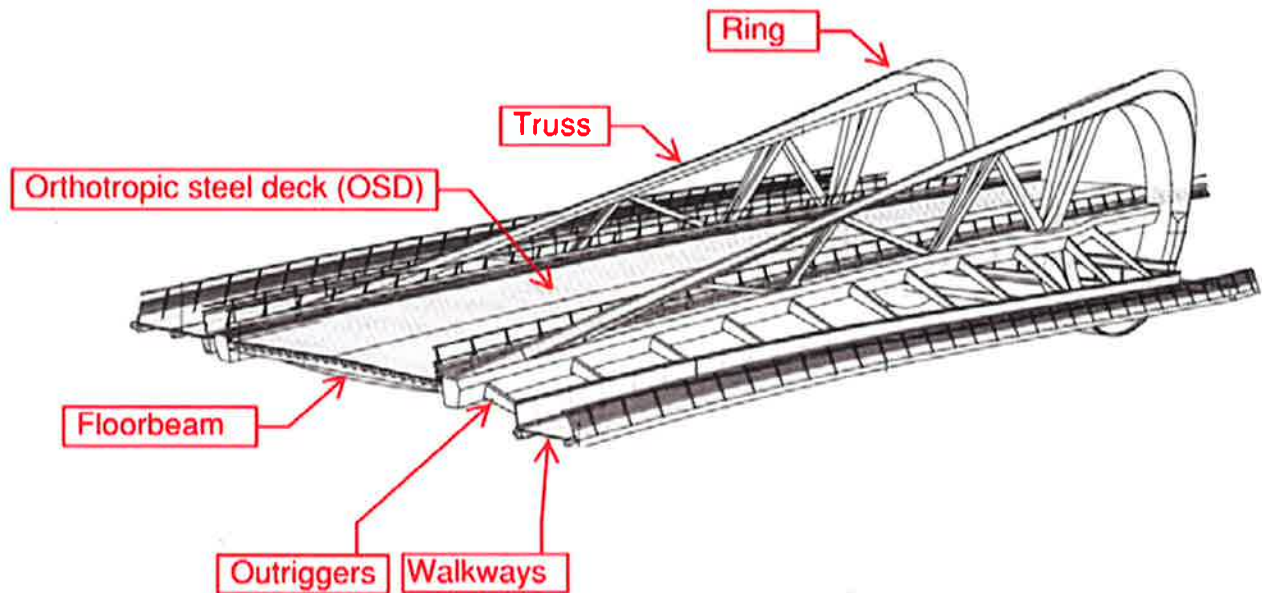
David Foster Harbour Pathway has seen some preliminary work on the bridge site to ensure synergy with the Janion project to the north side and with future connections to the south side of the bridge site.



View looking south at site of future David Foster Harbour Pathway under the new bridge

STEEL – DESCRIPTION OF STEEL COMPONENTS

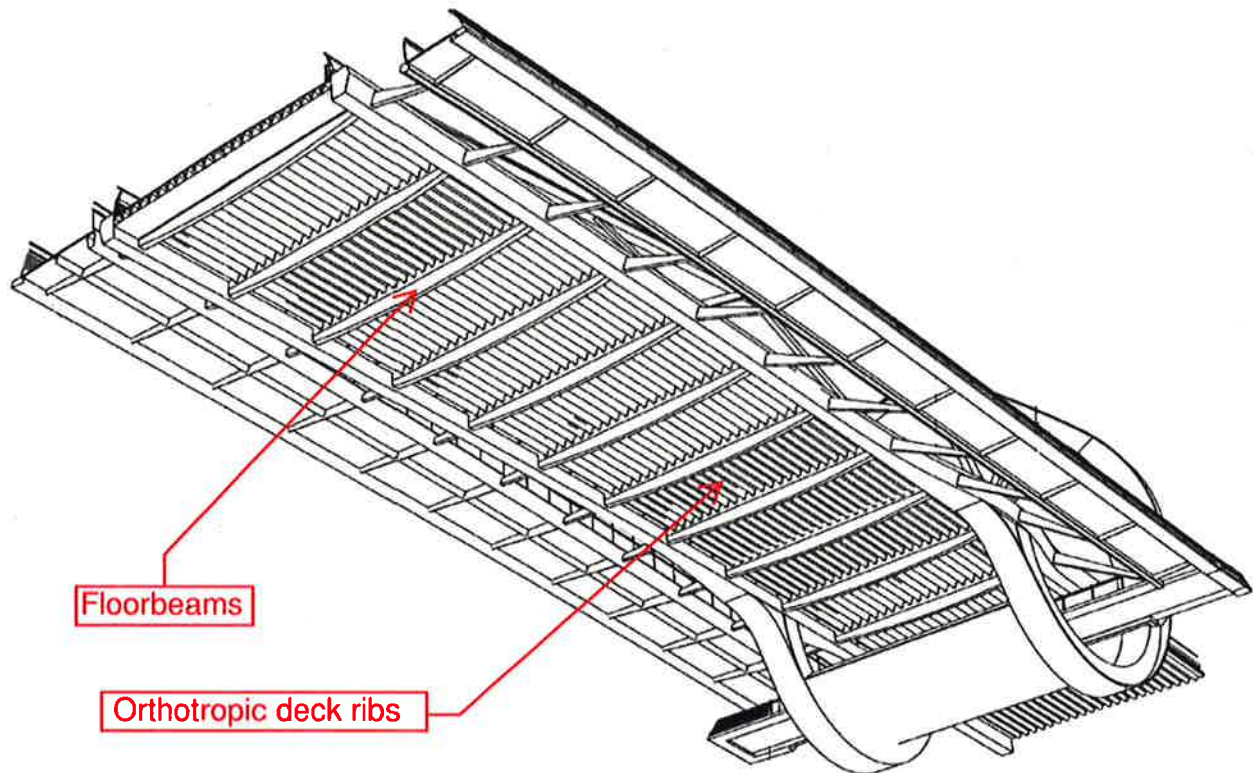
In order to provide visual clarity to Council on the various steel components of the new bridge, this report contains diagrams and photos of the major structural components of the new bridge.



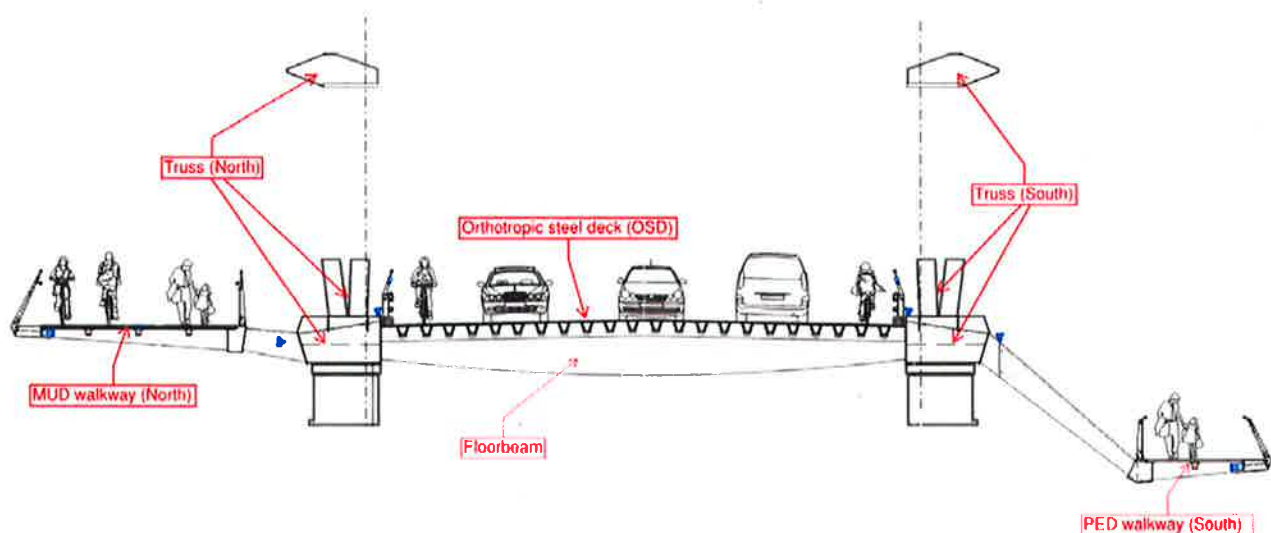
Major structural components of the bridge include:

- Trusses (one on each side of the longitudinal span);
- “Rings” (circular members at the end of the trusses which integrate with the bridge raising mechanism);
- Floorbeams (which are supported by the trusses);
- Steel deck (which carries vehicle traffic and which is attached to the top of the floor beams);
- Outriggers (which are attached to the trusses);
- Walkways (to carry pedestrian traffic) which are supported by the outriggers; and
- Counterweights (which are utilized to minimize the work done by the bridge machinery to lift and lower the span).

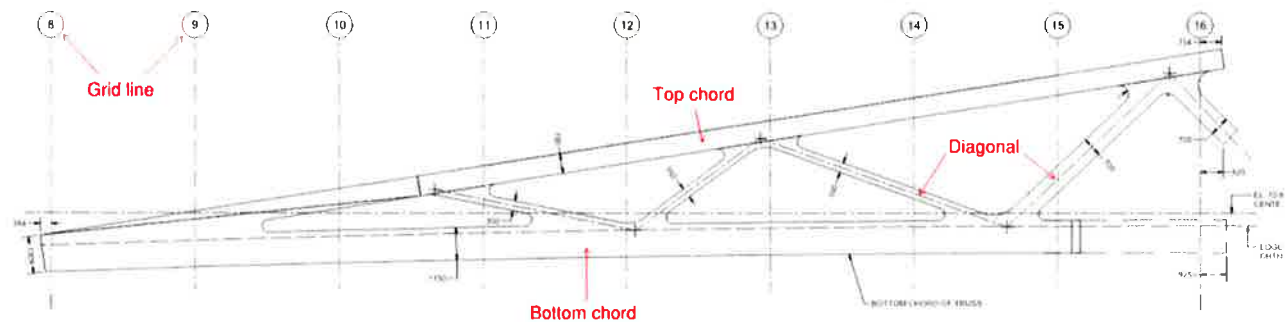
The following image shows the underside of the bridge and illustrates the floorbeams and “ribs” of the steel deck. This particular deck is “orthotropic” meaning the structural steel deck plate is stiffened. It is the ribs, which run parallel to the direction of travel, which provide strength to the orthotropic steel deck.



On the outside of each truss is a walkway. The bridge runs in an east to west direction and on the south side there is a pedestrian walkway and on the north side there is a multi-use walkway. The multi-use walkway is wider than the pedestrian walkway to accommodate both pedestrians on foot as well as bicycles. The steel deck roadway is made to accommodate three lanes of traffic, one westbound and two eastbound, as well as two bicycle lanes in both directions.



The main structural elements of the bridge are the trusses that span across the waterway. The following drawing illustrates the main elements of the trusses, and also indicates the numbered grid lines which are used on some of the drawings to indicate the relative location of various parts of the bridge.



Each truss runs from approximately grid line 8 to grid line 16. There is a north truss and a south truss (i.e. one on each side of the bridge) which runs east to west. Each truss consists of a top chord, bottom chord, and multiple diagonals connecting the chords. The trusses are single box members that are fully welded from plate steel. "Single box" refers to the fact that each truss member (top chord, diagonal, bottom chord) has four sides welded together to form a box-shaped structural member of some length.

The two trusses are connected together by floorbeams that span between the trusses at the level of the bottom chords of the trusses. There is a floorbeam at each gridline which are 5.05m apart.

The rings are constructed from double box members (as opposed to the single box structure of the trusses) that are made up of plate steel that is welded together. The plates on the top and bottom, and in this case the long side, of the double box are referred to as "flanges." The plates on the inside, outside, and middle, and in this case the short sides, of the double box are referred to as "webs."

The flanges are also given different names depending on their location: top, outside, inside, and middle. The following drawing highlights the different flange zones of the ring:

STEEL PROGRESS/ FABRICATION/QUALITY ASSURANCE

The following summarizes the steel fabrication process:

- Truss fabrication is nearing completion on the South truss, with final inspections and minor component assembly ongoing.
- North truss welding is ongoing, the rings are currently in assembly in preparation for welding around the circumference of the ring; these are some of the largest welds on the project.
- The lower counterweight is in the final stages of welding and assembly; the two major components will be connected in the near future.
- The roadway deck (OSD) is currently being welded and assembly of the parts is anticipated to begin in a few weeks.

The ring fabrication is currently on hold pending resolution of technical difficulties which are being addressed as an urgent matter.

PCL staff visited the fabrication facility in China during the week of September 7, 2015. Two days were spent at the facility reviewing progress, preparations for record submission, and development of plans for trial assembly.

A summary of recent steel manufacturing progress, including photos, is as follows:

Truss fabrication is nearing completion on the South truss, with final inspections and minor component assembly ongoing. North truss welding is ongoing. The rings are currently in assembly in preparation

for welding around the circumference of the ring; these are some of the largest welds on the project. The lower counterweight is in the final stages of welding and assembly, with the two major components to be connected in the near future. The roadway deck (OSD) is currently being welded and assembly of the parts is anticipated to begin in a few weeks.

Photo 1 – South truss inspection and testing



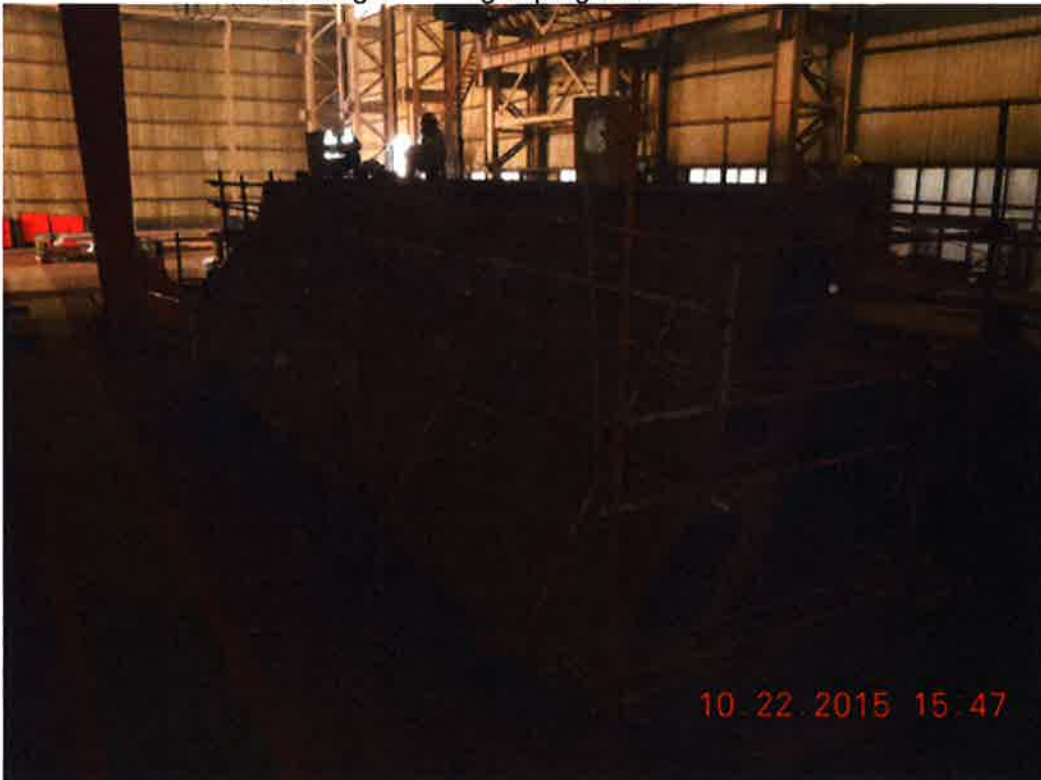
Photo 2 – Orthotropic steel deck end floor beam assembly and welding



Photo 3 – South ring assembly and fit-up in progress



Photo 4 – Lower counterweight welding in progress



MEDIATION UPDATE

The mediation process is ongoing and involves legal counsel and representatives of the City, PCL, MMM, and Hardesty and Hanover, as well as the insurer for MMM and Hardesty and Hanover. The mediator, a senior construction lawyer, has set timelines for the exchange of information between the parties regarding all known claims, including the City's claims, leading up to a mediation session scheduled for March 2016 in Vancouver.

The purpose of this session is to negotiate a resolution of all known claims among the parties. However, subsequent mediation sessions may be required to deal with future claims. For example, the full consequences of the delay in the fabrication of the steel cannot be determined until the steel has been delivered.

The mediation proceedings are confidential and all of the parties are not able to disclose the content of the proceedings.

PUBLIC REALM UPDATE

Staff continue to correspond and meet regularly with businesses to keep them updated on bridge work. This includes door-to-door visits as well as emails to stakeholders in the area. Citizens are keen to see the area improved and traffic and parking return to normal and actions are being taken to complete as many areas of the public realm as quickly as possible.

PCL expects to complete work currently underway in public roadways as well as work in front of businesses between Pandora Avenue and Johnson Street (near Michael Williams statue) by the beginning of December and in time for the holiday season.

In October a workshop on the public realm areas around the Johnson Street Bridge was held. The event was attended by stakeholders including the Downtown Residents Association, the Victoria West Community Association, the Downtown Victoria Business Association, Reliance Properties, Merrick Architecture, members of the City's new Accessibility Task Force, the Delta and Swans hotels, Ralmax, members of Council, other technical experts and City staff. The sessions included discussions around use of space, connectivity, accessibility, and opportunities for art and placemaking. The intent of the workshop was to develop options for the public realm areas for broad public input. Before proceeding to broader public engagement, a report on the results of the workshop along with initial concept plans will be shared with Council at the December 3 Governance and Priorities Committee meeting.

FENDERING UPDATE

Design of the north side fendering is expected to be completed by mid-November. At that time PCL will review the design and obtain competitive tenders for the work to establish a final cost.

A report on fendering will be brought forward to Council early in 2016 for budget approval, before any work commences. Work on the north side fendering is expected to be completed in late summer 2016, and until it is completed, PCL is arranging to provide some temporary protection of the completed bridge works until the final fendering can be completed.

SAFETY AND ENVIRONMENT

Environmental monitoring is being conducted by Hemmera field representatives on a regular basis. An archaeological monitor from Stantec and a First Nations representative are on-site during the excavation works at the west and east side of the project.

UPDATE ON RISK MANAGEMENT

Effective risk management requires continuous monitoring and updating. The following (Table 2) are the current significant project risks and their mitigation strategy:

Table 2. Risk Management Matrix

Risk	Detail	Mitigation
Delivery of Steelwork being fabricated in China	The quality and timing of the steel is perhaps the most critical issue facing the Project	Continued ongoing close monitoring and field inspections.
Financial consequences of mediation	The financial consequences of the mediation are not yet known, and may not be known for some time.	City staff are working with legal counsel to ensure a full and accurate exchange of information with the other parties occurs. Any agreement on financial issues requires the approval of Council.
Fendering	There are financial challenges related to the north side fendering.	Re-evaluation of the north side fendering designs together with a stakeholder consultation
Public Realm design	Need to ensure both public acceptance and financial viability of the public realm issues	Staff and consultants preparing options, costings and further consultation.
Management of Contingency Funding	March 2015 Council approved \$1.5 million additional funding and directed that Council wanted detailed updates on major contingency funding items. July 2015 Council approved additional \$2.554 million.	Project Director is preparing detailed contingency funding reports, and is looking for cost savings opportunities. A more detailed assessment of the probable project costs is being constantly undertaken.
Machinery Issues	A critical part of the bridge is the machinery operation. Work is underway on production of the machinery.	Regular off site inspections of the machinery fabrication are being carried out. Hardesty and Hanover have engaged a specialist machinery expert familiar with this kind of work.

Next Steps

The following are the priority tasks over the next three months:

1. Complete the rings, trusses, and orthotropic deck fabrication in China so that the various components can begin trial assembly, prior to painting and shipping.
2. Optimize the design of the north side fendering and obtain competitive tenders prior to seeking Council approval for additional expenditure.
3. Regarding mediation, continue information exchange and obtain expert witness testimony leading to a two day mediation session in March 2016.
4. Complete as much of the roadworks and general site work as possible so that the area of the construction site may be reduced.
5. Begin installation of the machinery in the bascule pit for opening and closing the bridge.
6. Continue consultation and pricing of options for the public realm.
7. Finalize the design and begin construction of the pedestrian bridge linking the Galloping Goose Trail to the E&N Trail.

RECOMMENDATIONS:

That City Council:

1. Approve an increase to the project budget of \$2.253 million with funding from the Building and Infrastructure Reserve.
2. Direct staff to transfer to the Building and Infrastructure Reserve any costs recovered from other parties.
3. Direct staff to bring forward an amended Financial Plan Bylaw to the November 26, 2015 Council meeting.

Respectfully submitted,




Jonathan Huggett, P. Eng.
Project Director



Susanne Thompson
Director of Finance

Report accepted and recommended by the City Manager: _____

Date: _____


November 13, 2015**List of Attachments**

- Appendix A – JSB Budget Update
- Appendix B – Project Completion Contingency
- Appendix C – Schedule of Anticipated Costs
- Appendix D – Summary Schedule

Appendix A - Budget Update

Budget Update	Adjusted Budget	Actuals (Oct 31, 2015)
Project Component		
Professional Services		
Design Management, Design & Contract Administration	10.884	10.468
Design consultant optimization	0.250	0.250
Development Costs to end 2010	1.333	1.333
Approvals & Permitting	1.129	1.125
Legal/Procurement	1.272	1.226
Additional Professional Services funded from Contingency	2.112	1.776
Subtotal	16.979	16.178
Construction Costs		
Main Bridge Contract	62.941	35.626
Project Completion Contingency	2.439	-
Additional Construction Costs funded from Contingency	0.879	0.322
Subtotal	66.258	35.949
General Construction		
Early Marine Works, Rail Bascule Removal	2.431	2.431
Insurance	1.587	1.236
Other Works & TELUS Duct Removal	2.546	1.649
Additional General Construction funded from Contingency	0.390	0.374
Subtotal	6.954	5.690
City Costs (over 5 years)	2.043	1.341
Property	1.000	0.997
Finance Fees	1.000	0.249
Value Added Tax (HST/PST)	2.619	-
Total	96.854	60.404

Appendix B - Project Completion Contingency

			Known to Oct 31, 2015
Original Project Completion Contingency			2,515,000
Add: Value Engineering Savings			300,000
Approved Funding March 2015			1,500,000
Approved Funding July 2015			2,554,000
Project Completion Contingency October 2015			6,869,000
	Vendor	Actuals	Committed
Professional Services			
Archaeological Services	Stantec	88,538	100,000
Selective Demolition	Stantec	7,099	50,000
Mediation Legal Fees	Denton's	446,359	492,506
Mediator Fees	Shapiro Hankinson and Knutson	20,753	20,753
JSB Control Room - Architect Services	Low Hammond	10,443	15,000
Architectural Design Review	Frank D'Ambrosio	1,881	5,000
Public Realm Design Revisions	Sharp & Diamond	-	29,065
CO #2 City QA for Structural Steel	MMM	37,782	160,500
CO #3 Resolution of China Fabrication QA/QC NCR's	MMM	188,634	188,634
CO #4 Workshop	MMM	53,156	53,156
CO #5 Supplementary Services	MMM	204,878	264,600
CO #6 Geotechnical Assess of Retaining Wall 2	MMM	4,000	4,000
CO #7 Utility Mapping	MMM	4,200	4,200
CO #8 Seismic Design	MMM	13,700	13,700
CO #9 Additional Designing	MMM	53,657	53,657
CO #10 Redesign Navigational Lighting	MMM	9,000	9,000
CO #11 Construction Joint Footing	MMM	7,780	7,780
CO #12 Review of NCR's	MMM	88,400	100,000
CO #13 Multi Colour Lights	MMM	1,749	1,749
CO #14 H&H Claim #1	MMM	360,000	360,000
CO #15 Fendering Design	MMM	29,077	70,715
CO #16 MMM Redesign for LED Fixtures	MMM	-	3,500
CO #17 Redesign Control Room Frame	MMM	6,612	6,612
CO #18 Custom Traffic Pole 11 Base	MMM	5,223	5,223
CO #19 H&H Claim #2	MMM	595,000	595,000
CO #20 Walkway Service Review	MMM	3,750	3,750
CO #21 MMM Redesign East Side Power Kiosk	MMM	-	4,988
CO #22 MMM Ped Bridge Rendering	MMM	1,800	1,800
Construction Costs			
Contaminated site refuse disposal permit	MOE	4,640	4,640
Hydro Relocation and Power Supply	BC Hydro	356,646	357,426
Hydro Kiosk Relocation	BC Hydro	2,959	2,959
Extending Conduit and Permit	Telus	7,533	7,533
Ground water monitoring	Hemmerra	2,188	2,188
Insurance Extension on Bridge Delay	AON	-	70,892
Rock blasting	PCL	-	15,000
CO #5 Hazardous Waste Disposal	PCL	33,566	33,566
CO #6 West Cofferdam Soil Disposal	PCL	243,168	243,168
CO #9 Soil Disposal	PCL	20,242	20,242
CO #10 Relocation of Generator Load Bank	PCL	9,993	49,964
CO #11 Fender Anode Installation	PCL	7,700	7,700
CO #12 Retaining Wall 2 Foundation	PCL	27,934	27,934
CO #13 Install Street Light Pole	PCL	2,169	2,169
CO #14 CCTV Cameras	PCL	2,392	23,921
CO #15 Install Rip Rap	PCL	109,955	219,911
CO #16 MUT Ped Overpass	PCL	-	147,300
CO #17 Anti Graffiti Coating	PCL	15,608	19,510
CO #19 Removal of Bedrock L10	PCL	38,281	38,281
CO #20 Removal of Creosote	PCL	12,065	12,065
CO #21 Wall Embeds For Fenders	PCL	-	17,890
CO #22 Traffic Signal Arm Changes	PCL	-	3,277
CO #23 Removal of Concrete Vault	PCL	-	1,170
CO #24 Removal of Asbestos Pipe	PCL	-	2,264
CO #25 Conduit and Wiring at Harbour Rd	PCL	-	4,462
CO #26 Removal and Disposal of Sharps	PCL	-	4,343
City Costs			
Project Support	COV & JR Huggett Co	196,297	441,450
Public Realm Irrigation Installation	COV	4,883	20,000
Public Realm Workshop	Delta Hotel	-	4,230
		3,341,688	4,430,342
Remaining Unallocated Contingency			2,438,658

Appendix C - Summary of Anticipated Additional Costs

Summary of Anticipated Additional Costs	Estimates June 30, 2015	Allocated From \$6.869M Contingency	Subsequent Estimates Oct 31, 2015
1. Insurance ^a	\$ -	\$ 70,892	\$ 370,000
2. Additional City Support Costs ^b		441,450	140,000
3. Professional Consulting Services ^c			
MMM			
17 Month Extension - MMM Site Personnel	1,127,000		1,127,000
Additional MMM Support Team	150,000		150,000
Redesign of Components Subsequent to IFD's	65,794		65,794
Urgent and Unforeseen Items	500,000	98,337	401,663
MMM Change Orders #4-11		410,093	-
MMM Total	1,842,794	508,430	1,744,457
Hardesty & Hanover			
Additional Meetings for H&H	215,625		215,625
Additional Field Reviews	335,115		335,115
Additional Shop Drawings and Submittal Reviews	443,950		443,950
Additional Responses to RFIs and RFCs	193,875		193,875
Fabrication Support and Review of NCRs	164,600	40,000	124,600
Hardesty & Hanover Committed Payments	(360,000)		(955,000)
Hardesty & Hanover Allocation	-	955,000	-
Hardesty & Hanover Total	993,165	995,000	358,165
4. Construction contract			
Fendering ^d		25,590	TBD
Additional Landscaping Costs		53,295	TBD
Multi-Use Trail Overpass	152,000	147,300	5,000
East Side Archaeological Monitoring		100,000	
Additional Owners Quality Assurance Program		409,134	
Seabed Land	50,000		100,000
Habitat Compensation ^e	54,978	219,911	55,000
Changes to CCTV Cameras		23,921	5,509
Environmental Permitting	5,000	6,828	80,000
Graffiti Coating	19,510	19,510	
Generator Load Bank Relocation		49,964	
Unforeseen Geotechnical and Subsurface Issues	225,000	53,780	171,220
Imported Fill	50,000		50,000
5. Legal Costs for Mediation	186,000	492,506	569,000
6. Architectural Design Review		20,000	
7. Selective Demolition		50,000	
8. Hazardous Waste Removal		281,077	
9. Soil Disposal		20,242	
10. Retaining Wall #2 Foundation		27,934	
11. Streetlight Pole		2,169	
12. Traffic Signal Arm Changes		3,277	
13. Conduit and Wiring at Harbour Rd		4,462	
14. Hydro Relocation and Power Supply		357,426	
15. Rock blasting		15,000	
16. Extending Conduit and Permit		7,533	
17. Mediator Fees		20,753	79,247
18. Relocation of BC Hydro Service Kiosk		2,959	
Total:	\$ 3,578,447	\$ 4,430,342	\$ 3,727,598
Potential Additional Costs Identified			
Fibre Optic Cable Connection			20,000
Contaminate Soil (Harbour Rd)			200,000
Additional Pending Change Orders			744,259
Unknown Costs to be Determined			
Pier Modification			
Additional material costs			
Architect - Operator's Hut			
Hand Rail Design and Construction			
Insurance Actual Adjustment ^a			
City Support Costs April 2016 to End of Project			
Potential Additional Costs:			\$ 964,259
Total Unallocated Anticipated Costs:			\$ 4,691,857
Current Unallocated Contingency at October 31, 2015			\$ (2,438,658)
Budget Shortfall:			\$ 2,253,199

Notes

- a) Excludes insurance coverage for fendering & PCL professional liability coverage/Subject to actual bridge cost and future claims or losses
- b) City Support Costs include Project Director, and staff support in the areas of Citizen Engagement; Finance; Engineering; and Public Works
- c) \$360,000 is for the first H&H settlement/ \$595,000 is for second H&H settlement
- d) Total cost to be determined upon approval of fendering design
- e) Subject to increase - dependent on how deep the silt is

Appendix D - Summary of Project Milestones

