



Outline of Presentation

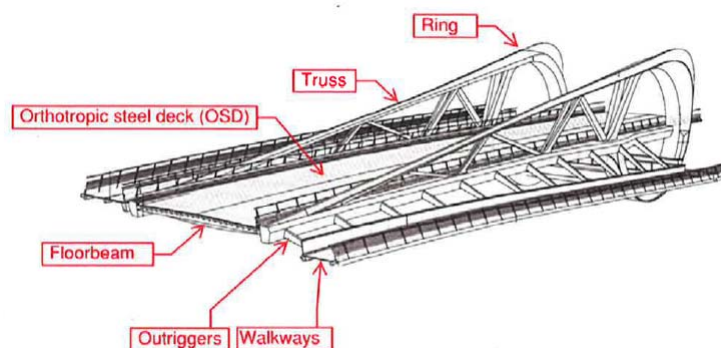
- Progress on the steel fabrication at ZTSS
- Progress on the span support structure at QuayQuip in Tianjin
- Other site work
- Fendering discussion
- Financial Update
- Other issues such as public realm, communications, etc.

Steel Fabrication

- There are three main steel components:
 - The main bascule span being fabricated by ZTSS: Rings / Trusses / Counterweights / Outriggers / Deck
 - The span support structure being fabricated by QuayQuip in Tianjin: Interface between the ZTSS work and the moving machinery
 - Falsework being fabricated by ZTSS – Temporary structure which will support the various pieces while they are assembled in Victoria

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Steel Fabrication



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Trial Fit Ups

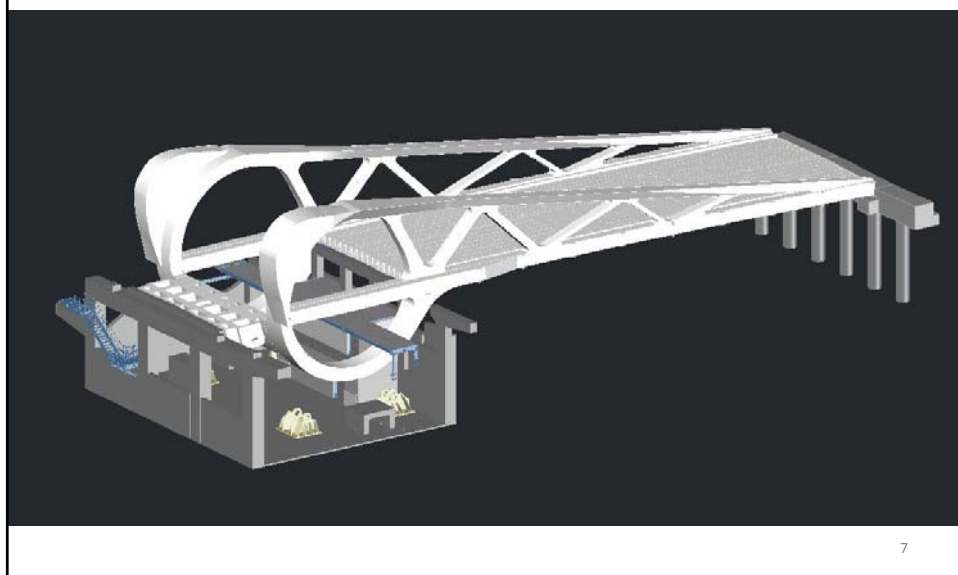
- Two types:
 - Horizontal, where the rings are fitted to the trusses with three connection points
 - Vertical, where entire steel bridge is assembled
- Horizontal fit-up requirements:
 - Flat surfaces must achieve adequate contact
 - Rest of the structure must not deform
- Vertical fit-up:
 - Measure real deflections against calculations
 - Ensure all components fit together without distortion

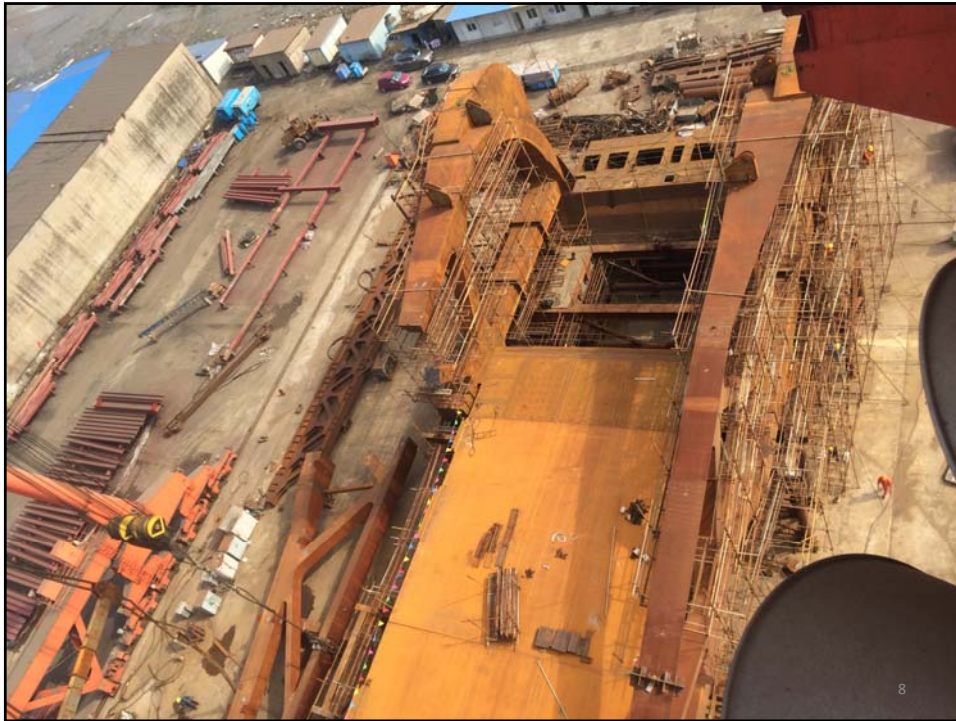
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Upper and Lower Counterweights

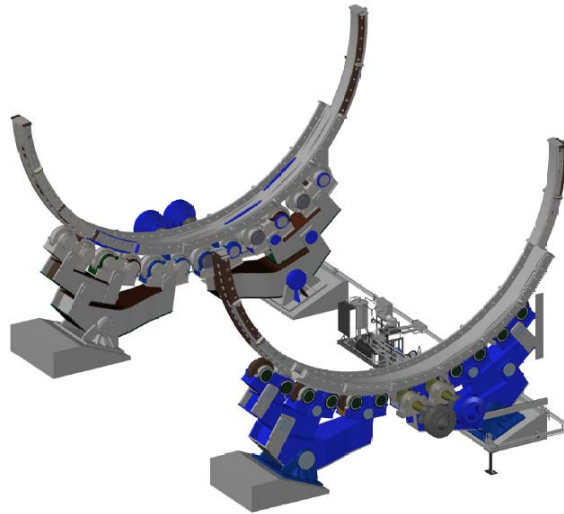




ZTSS Steel Progress

- PCL have completed the horizontal fit up
- Vertical fit up is in progress
- As soon as possible the rings will be taken off and painted and shipped to Victoria
- Remaining fit up can carry on without the rings

Span Support Structure



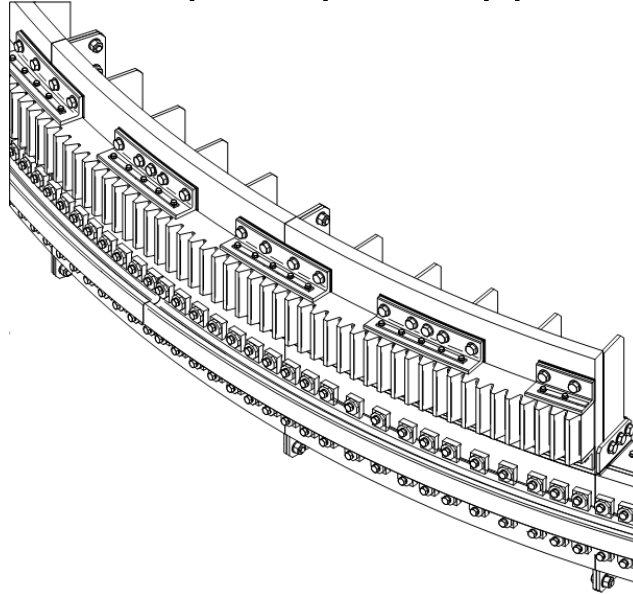
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Span Support Structure

- Fabricated partly in Tianjin and installed in Victoria by United Engineering
- QuayQuip is a Dutch managed specialist in fabrication of similar machine parts
- Rail from France is in Tianjin and QuayQuip to do final machining of base
- Rack supplied by Steward Machinery and in transit to QuayQuip

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Close up of Span Support



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Rack Segments



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Span Support Segments in Tianjin



Span Support Segments Part 2



Schedule Update

- QuayQuip manufactured span support structure will be completed and ready to ship with rings at the end of May
- United Engineering will attach span supports to rings in July and August 2017
- Steel will be shipped to Victoria starting end of May and arriving early July
- Bridge still scheduled to open to traffic by end of 2017

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Citizen Engagement Update



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Citizen Engagement Update

- Staff stay in contact with the Vic West and Downtown resident associations, as well as downtown and harbour stakeholders
- Effort for more images available locally and from abroad to demonstrate progress in construction that the public cannot see onsite
- When safe, media opportunities have been accommodated on site to raise awareness and understanding about ongoing construction

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Public Realm Update



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Public Realm Update

- Planning staff are preparing a report on public realm for Council to be presented April 13, 2017
- Work on Janion Plaza is underway and will be completed by end of March 2017
- Corner of Harbour Road and Esquimalt has been completed
- Grading of the area adjacent to the Delta Hotel has been completed
- Final solutions will be determined by Council

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Construction – Janion Plaza



JANION

CITY



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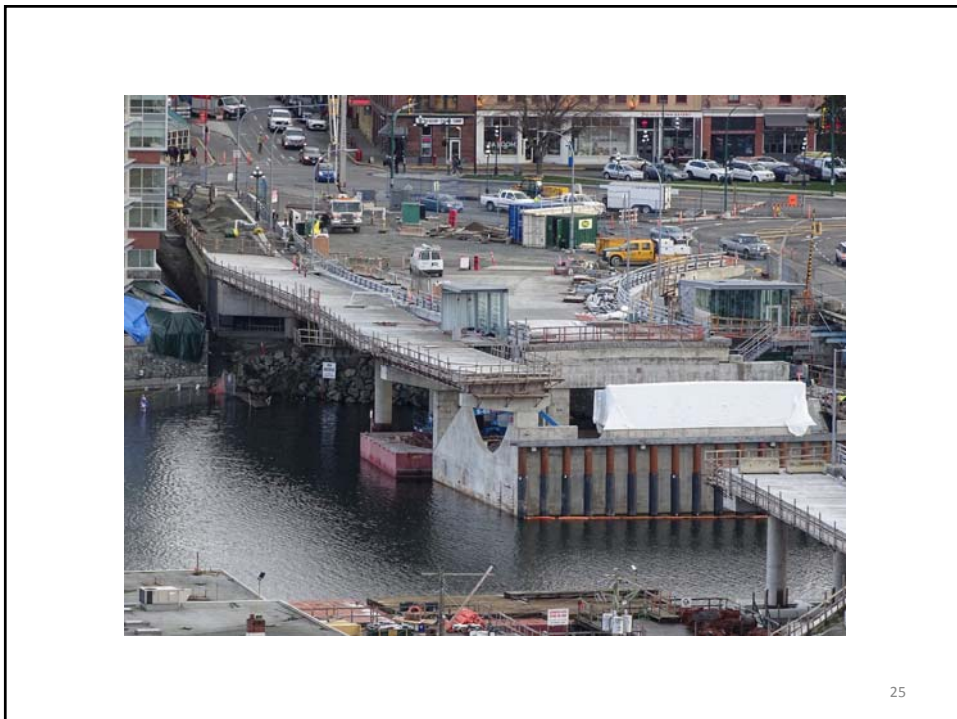
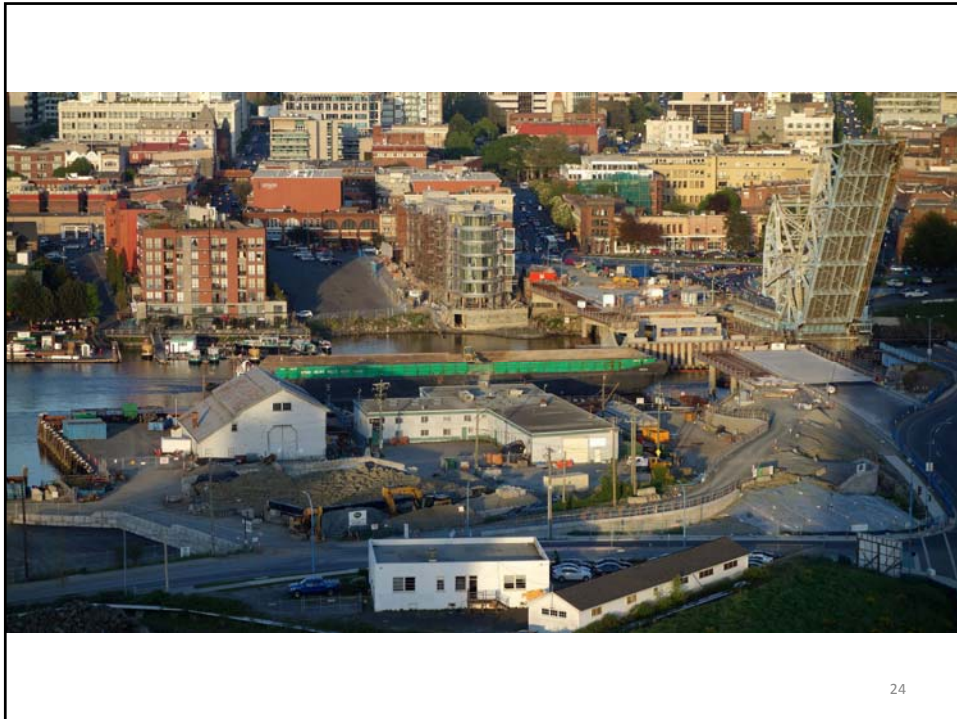
Fendering Update



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Camel



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South Side Fendering



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Outline of the Fendering

- For inbound vessels the existing bridge piers will remain and skinned with wood strips
- In channel fendering already constructed
 - Camel on the rest pier
 - Steel roller piles on the bascule side
- Only remaining issue is protecting rest pier and bascule pit from outbound strikes

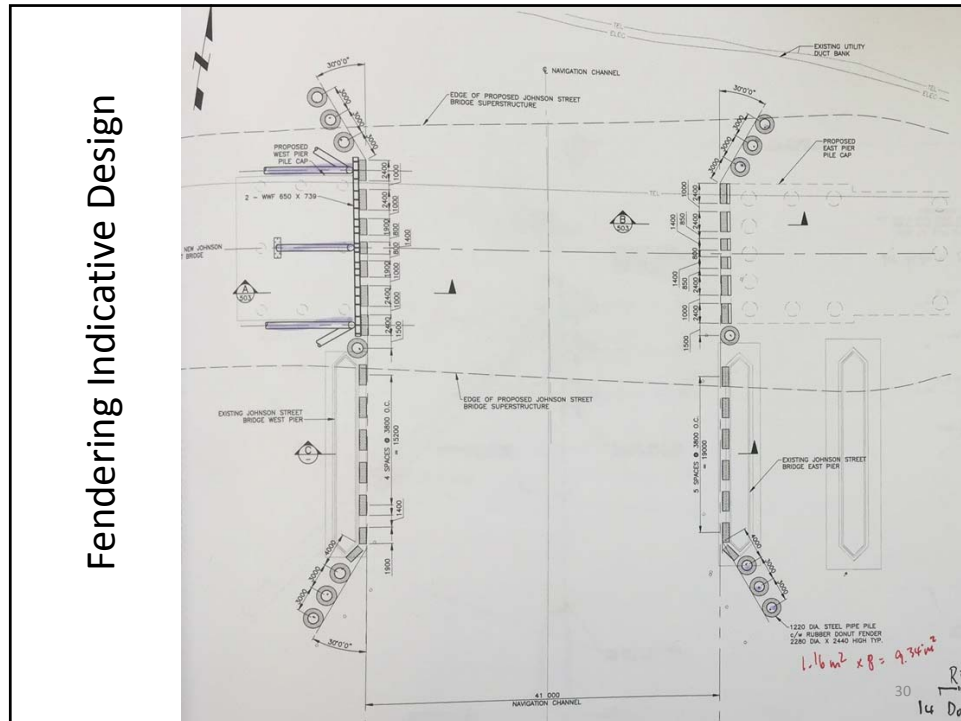
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Original PCL Contract

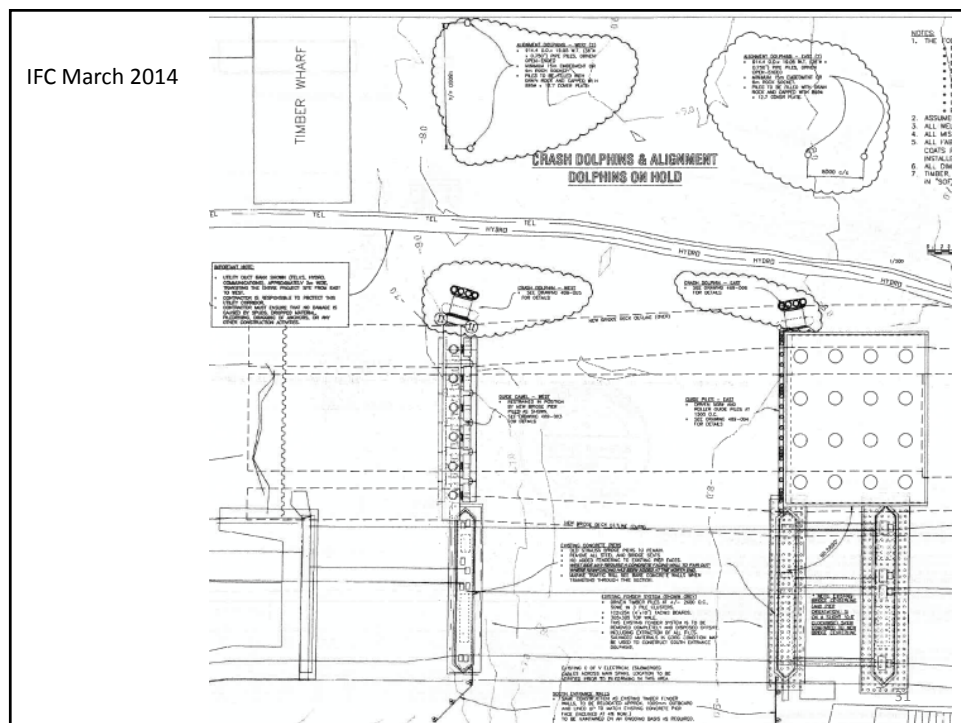
- Scope included navigational channel fendering
- Had a contingency of \$462,500 for additional structural support (later moved to unallocated)
- Developed to a concept level based on 5 drawings from the indicative design. MMM were to prepare the design
- The optimized PCL concept changed the size and layout of both piers
- PCL had included \$1,599,000 in their proposal for all fendering work

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Fendering Indicative Design



IFC March 2014



Design Development

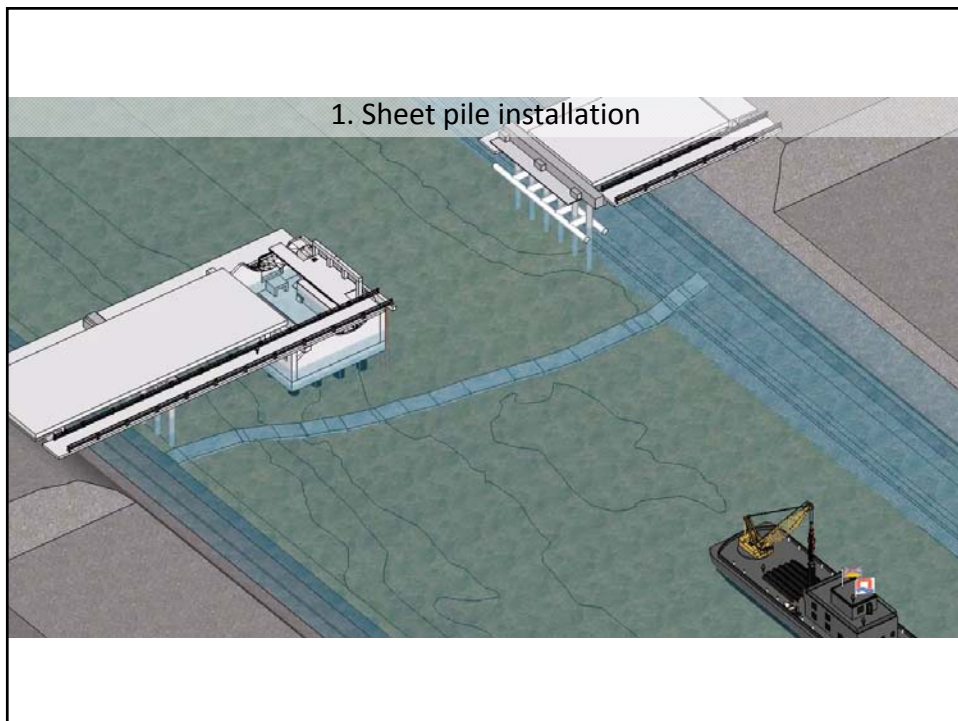
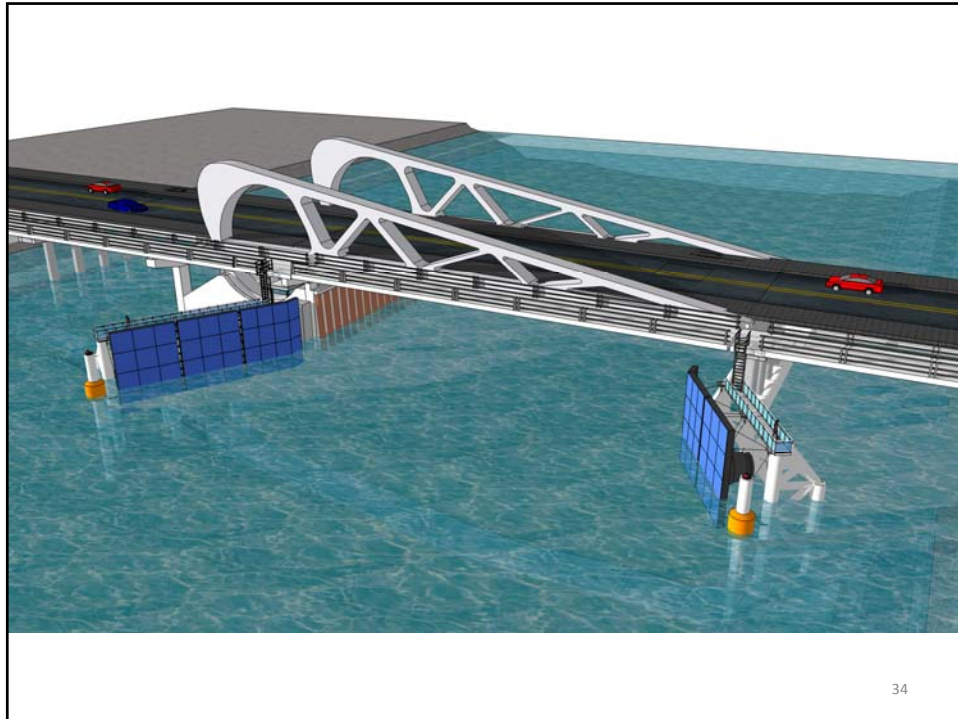
- During design in 2013 it became clear that costs were too high
- In early 2014 north fenders put on hold, with the in channel fendering allowed to proceed

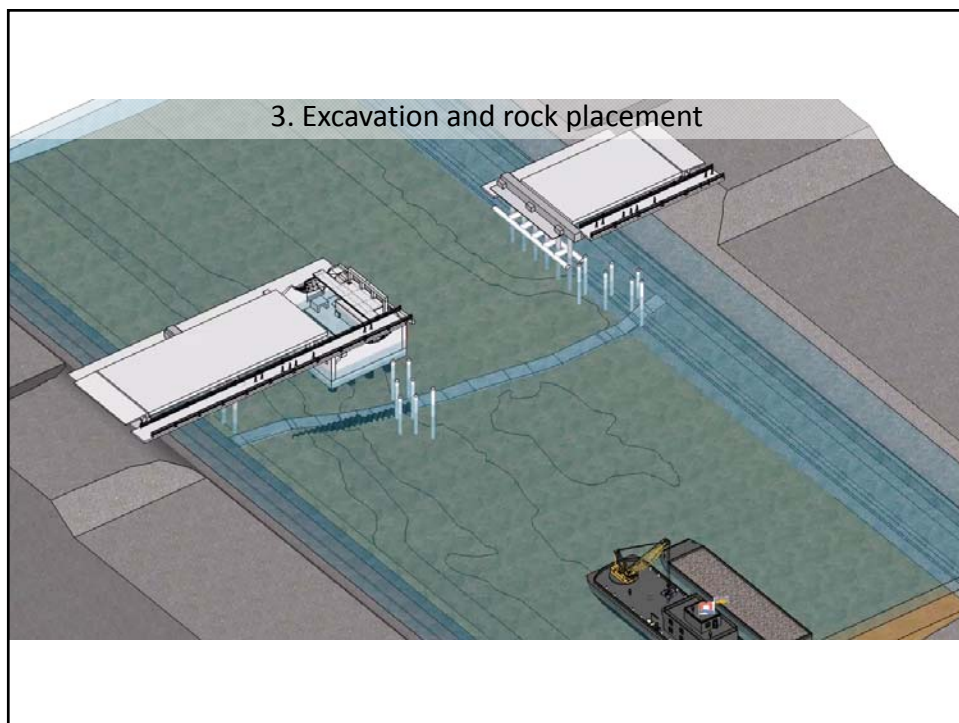
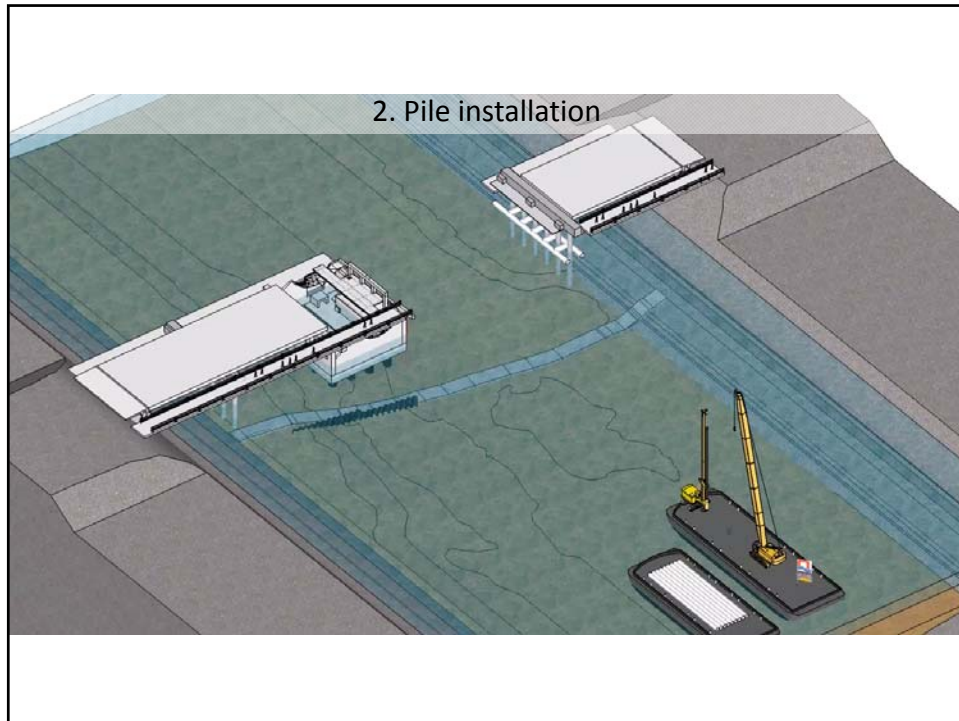
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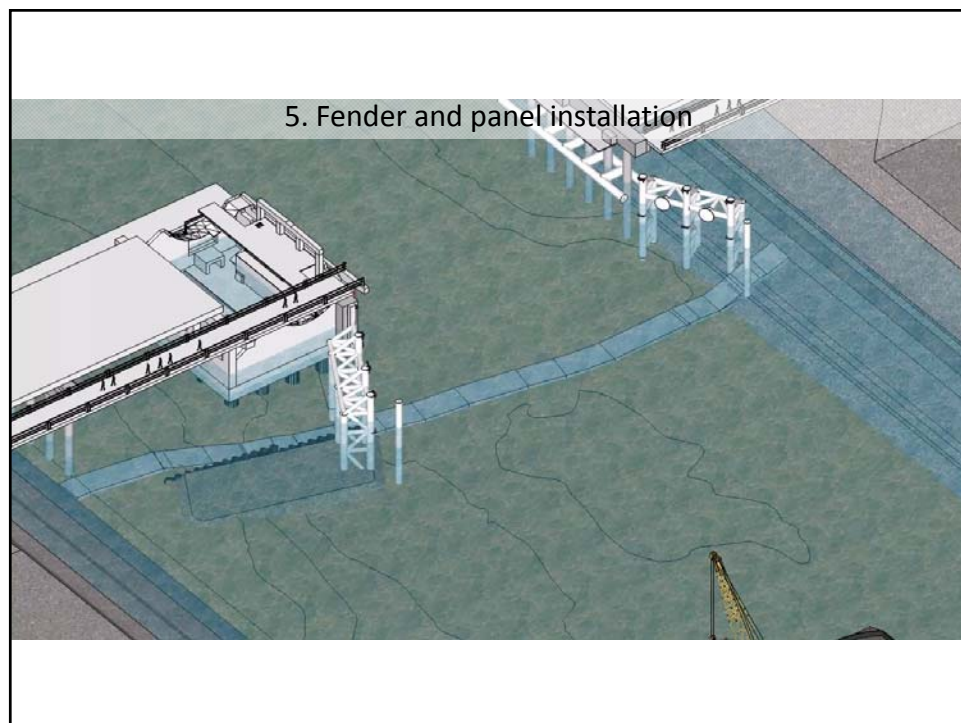
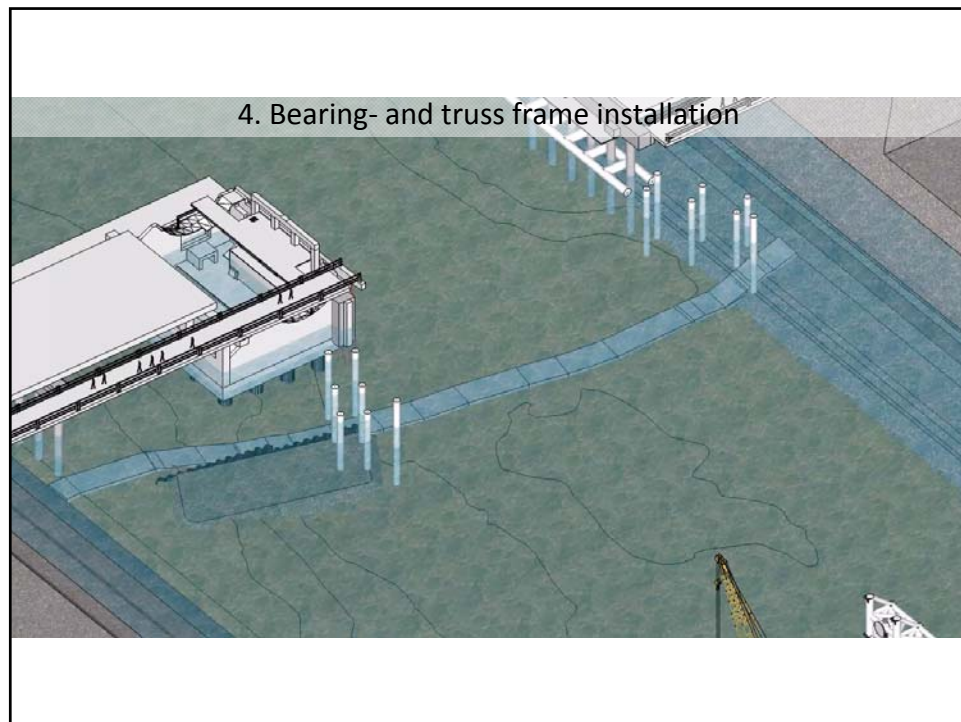
Fendering Update

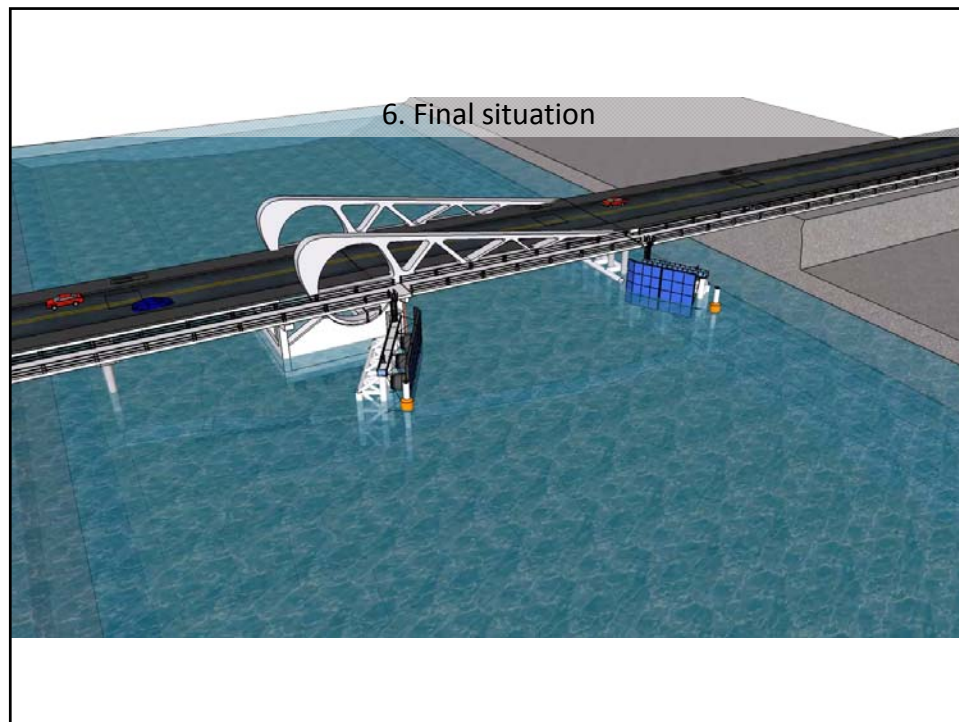
- Pacific Maritime Institute in Seattle completed its simulation report which is now on the City website
- MMM have prepared basis of design document which is complete and has been presented to stakeholders
- Conceptual design underway with industry consultation

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Safety Considerations

- Vehicle and pedestrian barriers have been set back so that when bridge is open, no public access on the spans closest to the opening
- Fendering design speeds are related to reasonable speeds by harbour users
- Harbour master has existing regulations requiring 2 tug operation
- It is the legal responsibility for the marine operators to ensure safe passage and not strike the bridge

Financial Implications

- Council approved \$8.206 million in additional project funding from the Building and Infrastructure Reserve as part of the 2016 Financial Plan Bylaw on May 5, 2016, resulting in a current budget of \$105.06 million
- Total spent to January 31, 2017 is \$79.595 million
- Remaining unallocated contingency at January 31, 2017 is \$1,409,576

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Next Steps

Priority tasks over the next three months include:

1. Continue to monitor steel fabrication by ZTSS in JingJiang as this is critical to achieving the current schedule
2. Monitor the span support structure fabrication and installation
3. Resolve the north side fendering design issues and bring a report to Council regarding next steps
4. Public realm progress

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Recommendation

That City Council receive this report for information

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