



Marine Users Working Group

Presented By: Fraser Crossing Partners and
Transportation Investment Corporation

September 12, 2024

Welcome

- Review of August 1 Meeting Minutes
- Navigation Log
- Project Update
- River Monitoring Results
- Cantilever Construction Update
- 4 Week Look-Ahead Schedule
- Roundtable Discussion
- Next Steps

Review of Meeting Minutes

August 1, 2024

Meeting Minutes – August 1, 2024

- FCCGP provided a Project update and overview of upcoming works
 - Formwork and scaffolding being removed from the S1 tower
 - Girder installation and bridge deck construction ongoing for the South and North Approach – N1 pier cap concrete pour complete
- FCCGP provided an update on the River Monitoring Program
 - Comparison of the January 4, 2024 and July 2, 2024 bathymetry results reveals some areas of deposition moving and some areas of scour increasing
 - Section D (existing bridge centreline) shows some sedimentation occurring near the future navigational channel (more evident downstream near S1 pier)
 - Increased depositions noted on south side of the river are attributed to river dynamics and naturally occurring sedimentation arising from tide conditions and high river flows
 - Further discussions will be held with VFPA and regarding future navigational channel requirements and impacts, as well as sedimentation with water lot lease holders.
- FCCGP provided an overview of cantilever construction
 - Lifting gantries are still out of commission – derrick barges used to maintain progress with SM-02 and SM-03 (WorkSafe BC and other regulators' concerns regarding the use of the lifter have been resolved. As a result, they will be back into service likely in early August)
- FCCGP provided a 4-week look ahead
 - SM-03 will occur in early August (total duration of 3 weeks with approximately 11 hours of restrictions in the downstream draw)
 - SM-04 will also occur in August (total duration of 3 weeks with approximately 11 hours of restrictions in the downstream draw)

Navigation Log

Marine Occurrences as a Result of the Project

**No updates to report*

Project Update

Works in Progress

Project Update

S1 Tower and Cantilever Construction



Photo 1: Pier S1, looking south – deck panel installation



Photo 2: Pier S1, looking northwest

Project Update

S1 Tower and South Approach Girder Installation



Photo 3: Pier S1, looking north – South Approach girder installation progressing



Photo 4: South Approach - Deck panel installation across Highway 17

Project Update

N1 Pier Cap Construction and Girder Installation

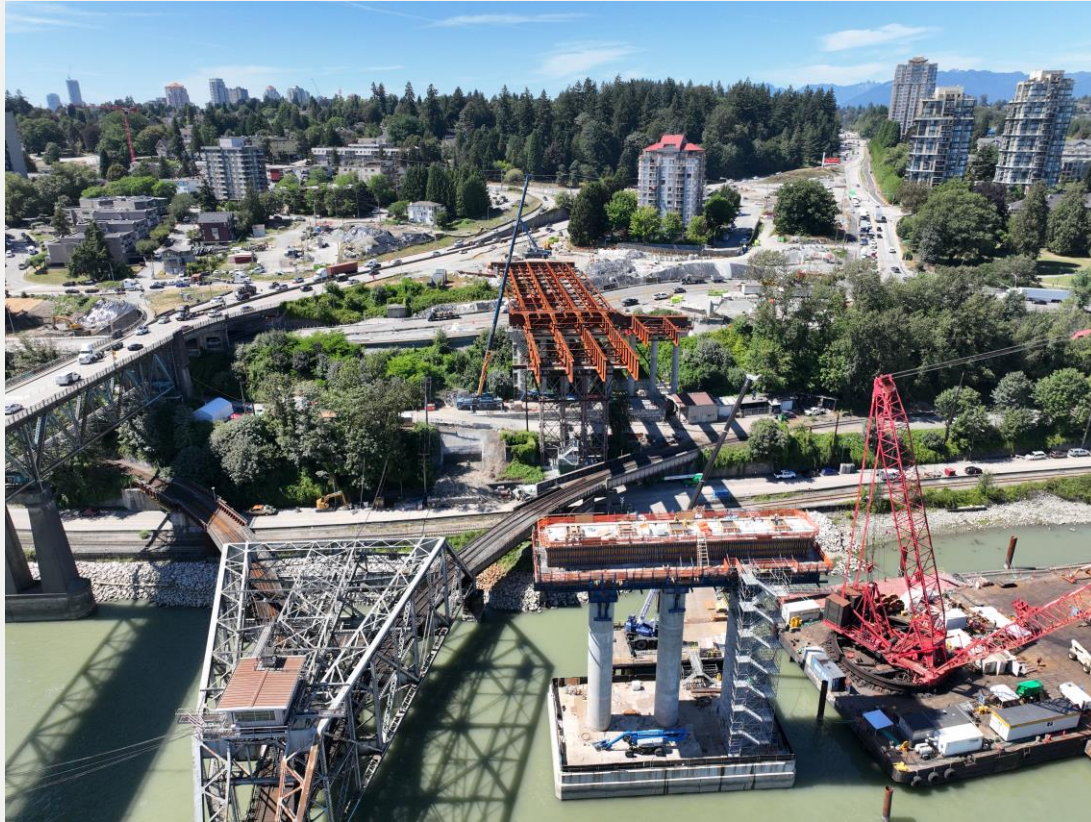


Photo 5: N1 Pier Cap construction and girder installation across Front Street

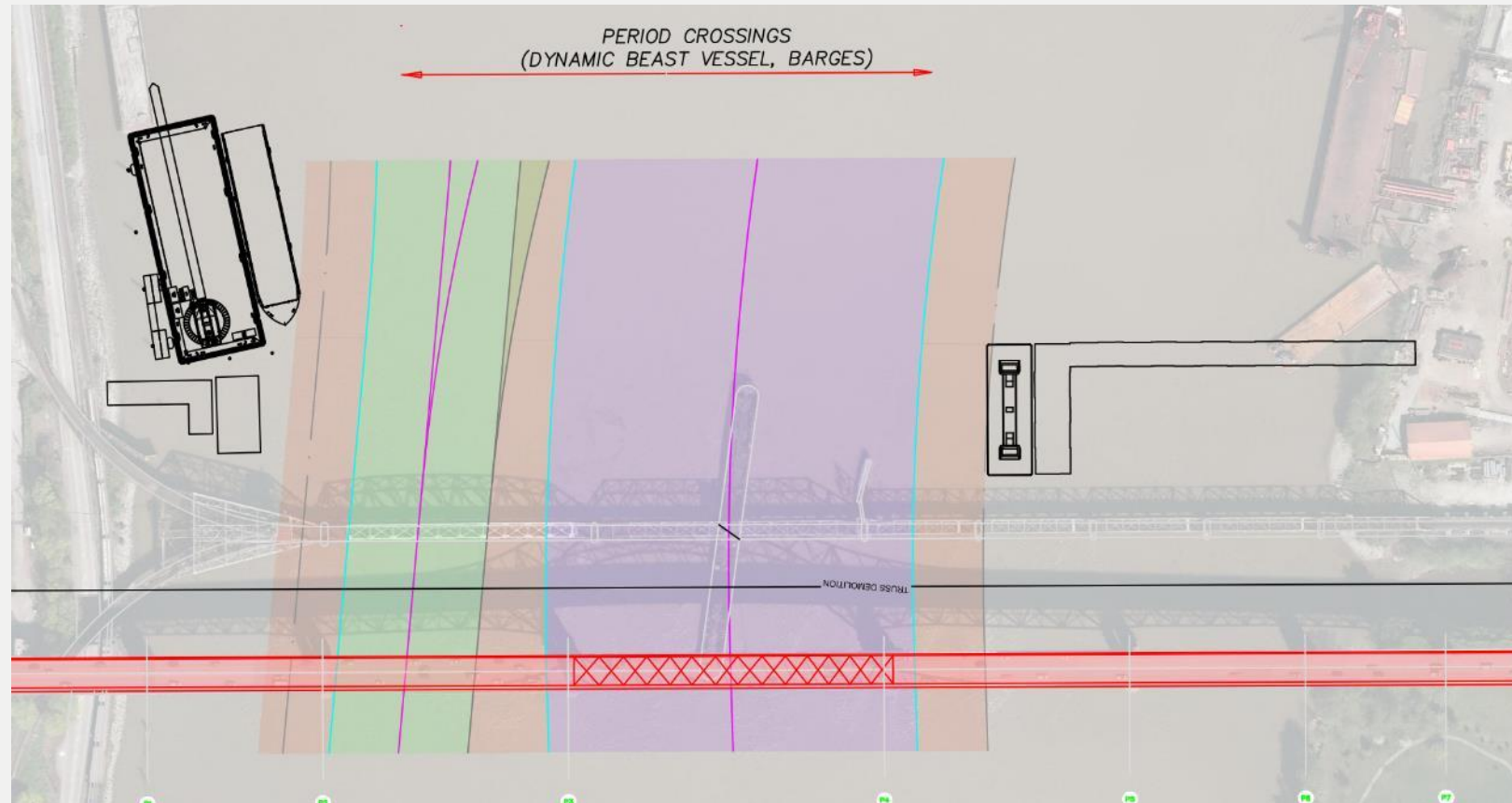


Photo 6: Ongoing girder installation for the North Approach

Project Update

Girder offload and installation for the North Approach and South Approach

- Offloading girders continue
- Occasional barge crossings across the main navigation channels required

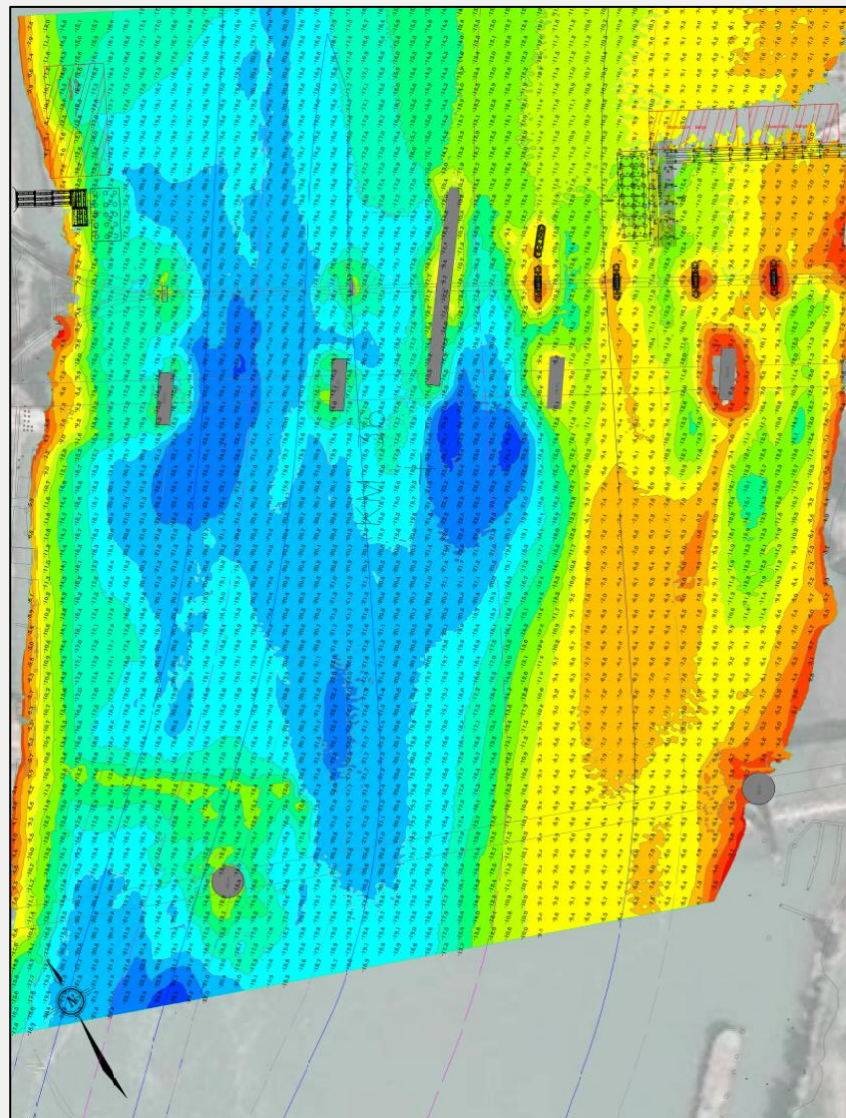


Update on River Monitoring Program

Bathymetric Survey Results – Monthly Update

Bathymetry Monitoring Survey – August 29, 2024

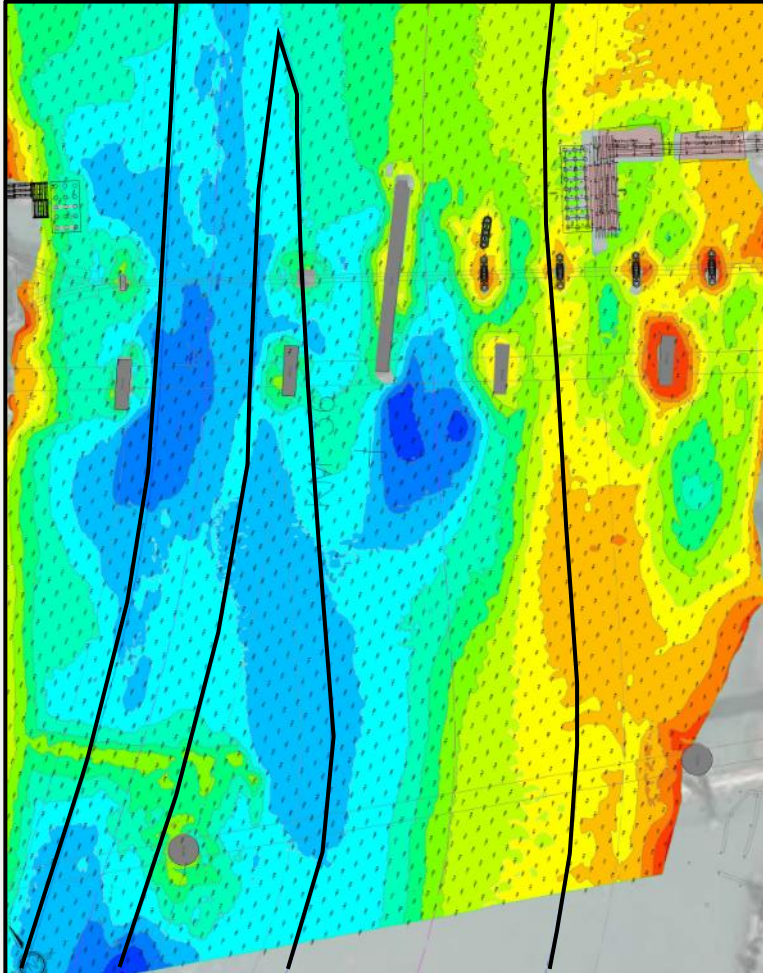
Monthly
bathymetric survey
results being
shared at IMUWG
and MUWG
meetings



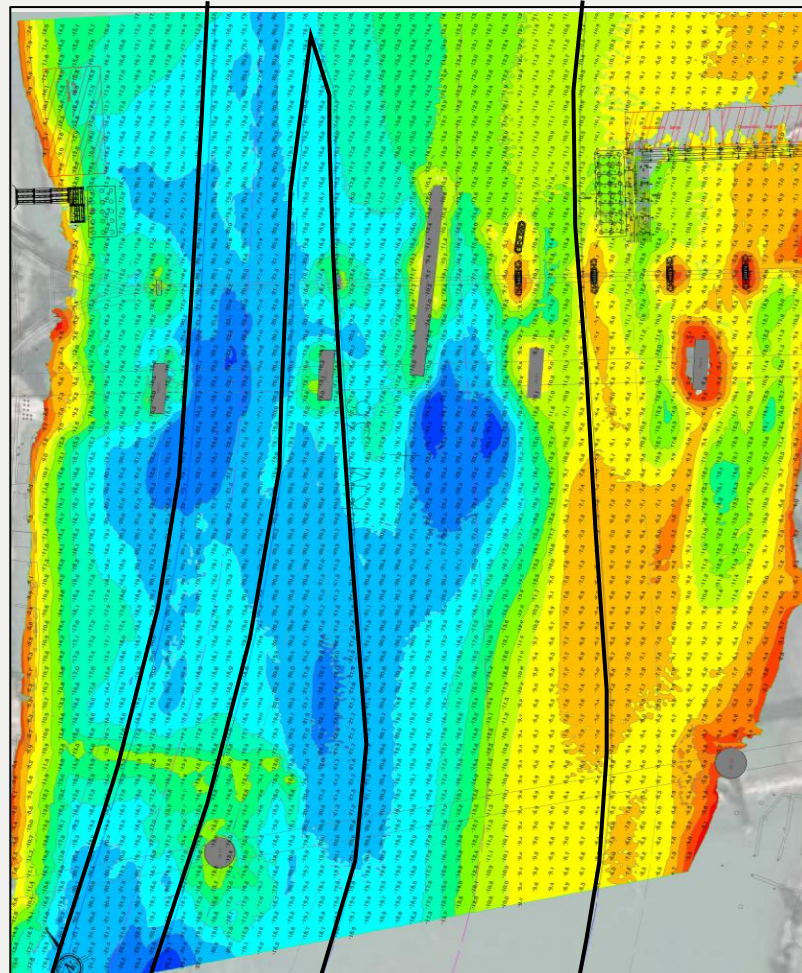
Elevations Table			
Number	Maximum Elevation	Minimum Elevation	Color
14	0.00	-2.00	Red
13	-2.00	-4.00	Orange
12	-4.00	-6.00	Yellow-Orange
11	-6.00	-8.00	Yellow
10	-8.00	-10.00	Light Green
9	-10.00	-12.00	Green
8	-12.00	-14.00	Light Blue
7	-14.00	-16.00	Blue
6	-16.00	-18.00	Dark Blue
5	-18.00	-20.00	Very Dark Blue
4	-20.00	-22.00	Black
3	-22.00	-24.00	Dark Gray
2	-24.00	-26.00	Black
1	-26.00	-28.00	Black

Bathymetry Results: Comparison from January – August 2024

Local Area Survey Jan 4/24



Local Area Survey Aug 29/24

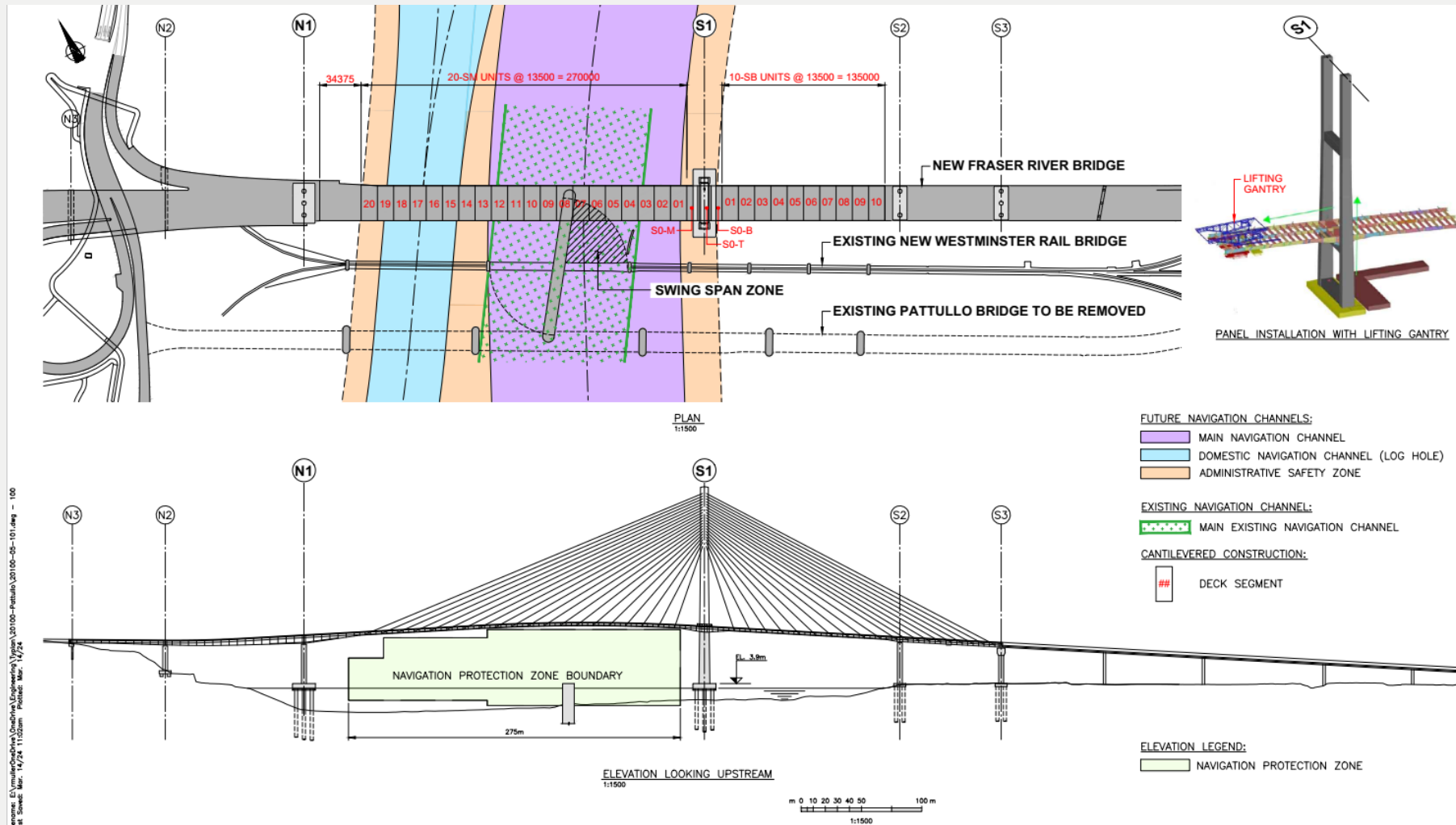


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3	-22.00	-24.00	Medium Grey
2	-24.00	-26.00	Light Grey
1	-26.00	-28.00	White

Cantilever Construction

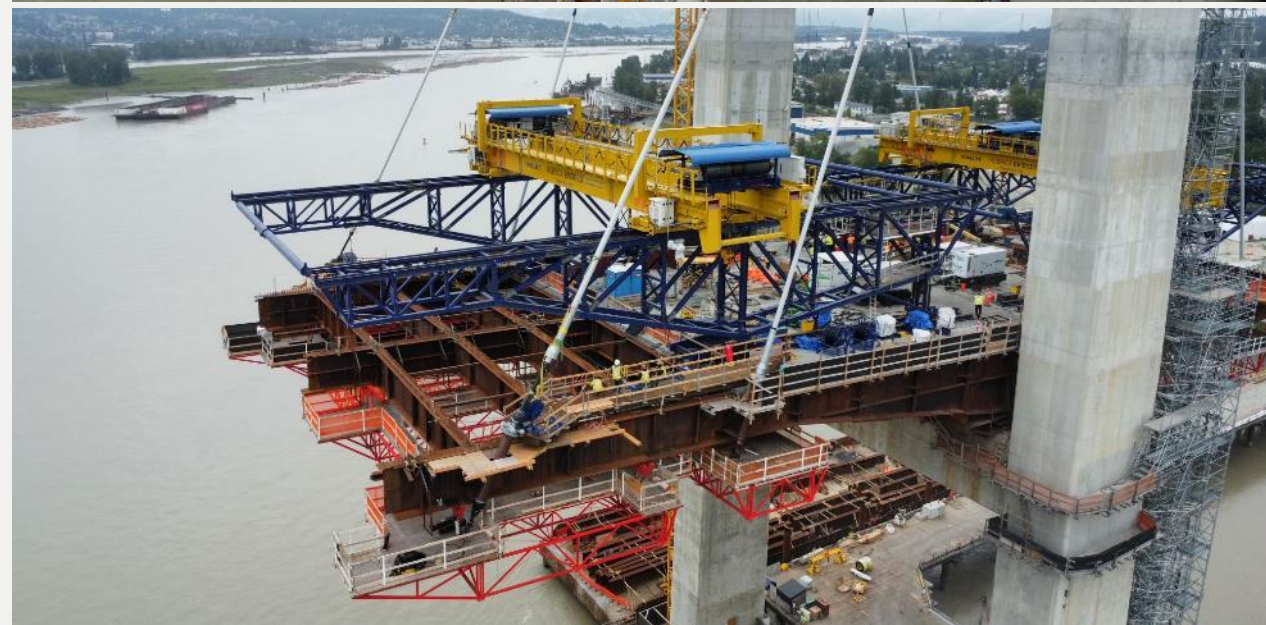
Update

Cantilever Construction Overview



Existing Status (as of Sep 9, 2024)

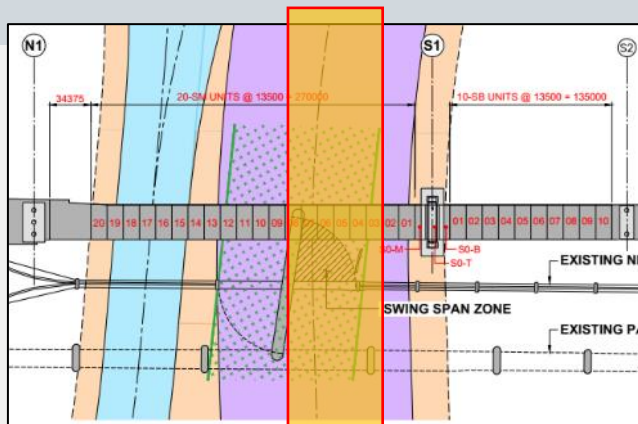
- Main Span:
 - S0M (Pier Table) and SM-01 deck segments complete.
 - SM-02 Structural Steel installation complete.
 - SM-02 Cable Stay installation complete.
 - SM-02 Deck Stitches poured.
 - Lifter 1 operational.
 - Rear and Front Temporary Underslung Gantries installed.
- Back Span:
 - S0B (Pier Table) and SB-01 deck segments complete.
 - SB-02 Structural Steel installation complete.
 - SB-02 Deck Stitches poured.
 - SB-02 Cable Stay installation on-going.
 - Lifter 2 operational.
 - Rear Temporary Underslung Gantry installed.



Interferences to Navigation Resultant from Cantilever Construction (approx.)

Main Navigation Channel Downstream (SM-03 to SM-08)

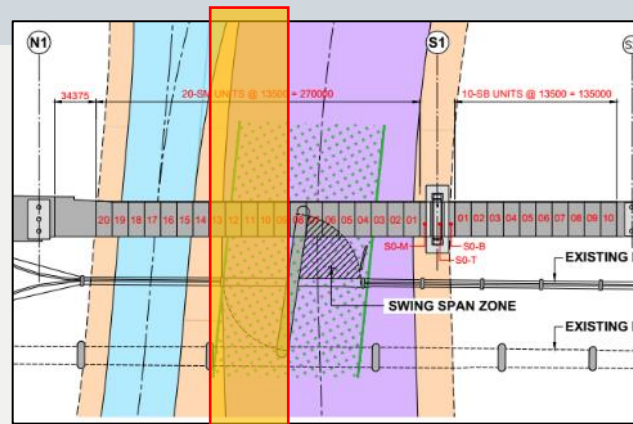
- 120 calendar days (~Sep-Dec/24)
- 66 hrs of interference
- Upstream navigation channel open at all times



DOMESTIC CHANNEL	MAIN NAVIGATION CHANNEL	
	UPSTREAM DRAW	DOWNSTREAM DRAW
✓	✓	CONDITIONAL RESTRICTIONS

Main Navigation Channel Upstream (SM-09 to SM-13)

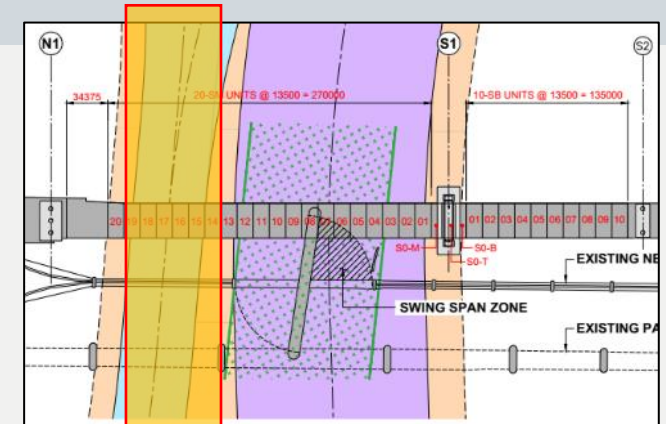
- 80 calendar days (~Jan-Mar/25)
- 55 hrs of interference
- Downstream navigation channel open at all times



DOMESTIC CHANNEL	MAIN NAVIGATION CHANNEL	
	UPSTREAM DRAW	DOWNSTREAM DRAW
✓	RESTRICTED	✓

Domestic Navigation Channel (M-14 to-19)

- 90 calendar days (~Mar-May/25)
- 66 hrs of interference
- Both upstream and downstream navigation channels open at all times



DOMESTIC CHANNEL	MAIN NAVIGATION CHANNEL	
	UPSTREAM DRAW	DOWNSTREAM DRAW
RESTRICTED	✓	✓

Accommodating Marine Transits

Temporary Special Operating Procedures (TSOP)

- TSOP proposed to reduce restrictions

Temporary Special Operating Procedures (TSOP's)	Notice (minutes)	Communications	Communication Sequencing and VHF Channels
Pre-Call	60	Master Call Bridge Tender	Refer to Communications Flow Chart <ul style="list-style-type: none">• VHF Channel 74 General Information• VHF Working Channel 69 (Marine Contractor Marine Flagger)• VHF Channel 16 Emergency Channel
ETA Call	30	Master Call Bridge Tender	Refer to Communications Flow Chart <ul style="list-style-type: none">• VHF Channel 74 General Information• VHF Working Channel 69 (Marine Contractor Marine Flagger)• VHF Channel 16 Emergency Channel

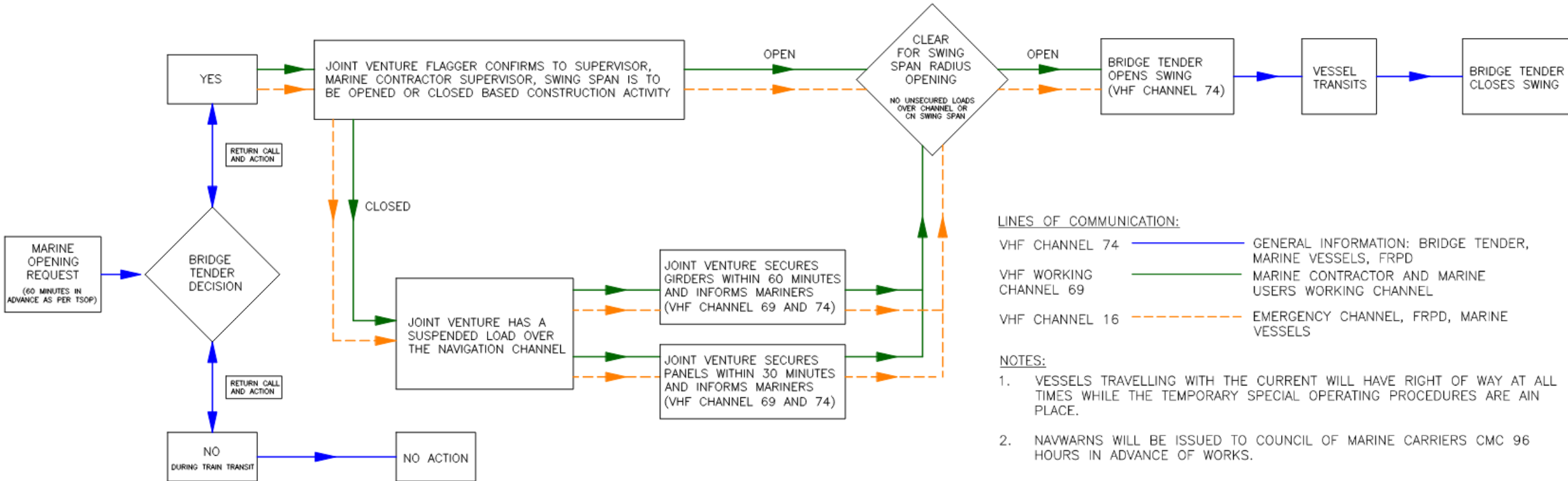
The sequencing of actions and the VHF communication responsibilities are outlined in the Corresponding Temporary Special Operating Procedures



FCCGP Communications

- FCCGP requires max of 60mins to secure the beam – *falls within the temporary bridge operating procedures*
- FCCGP requires 30mins to lay the panel – *falls within the temporary bridge operating procedures*

Temporary Special Operating Procedures

- Communications flow chart for the TSOP (currently under review by CN)

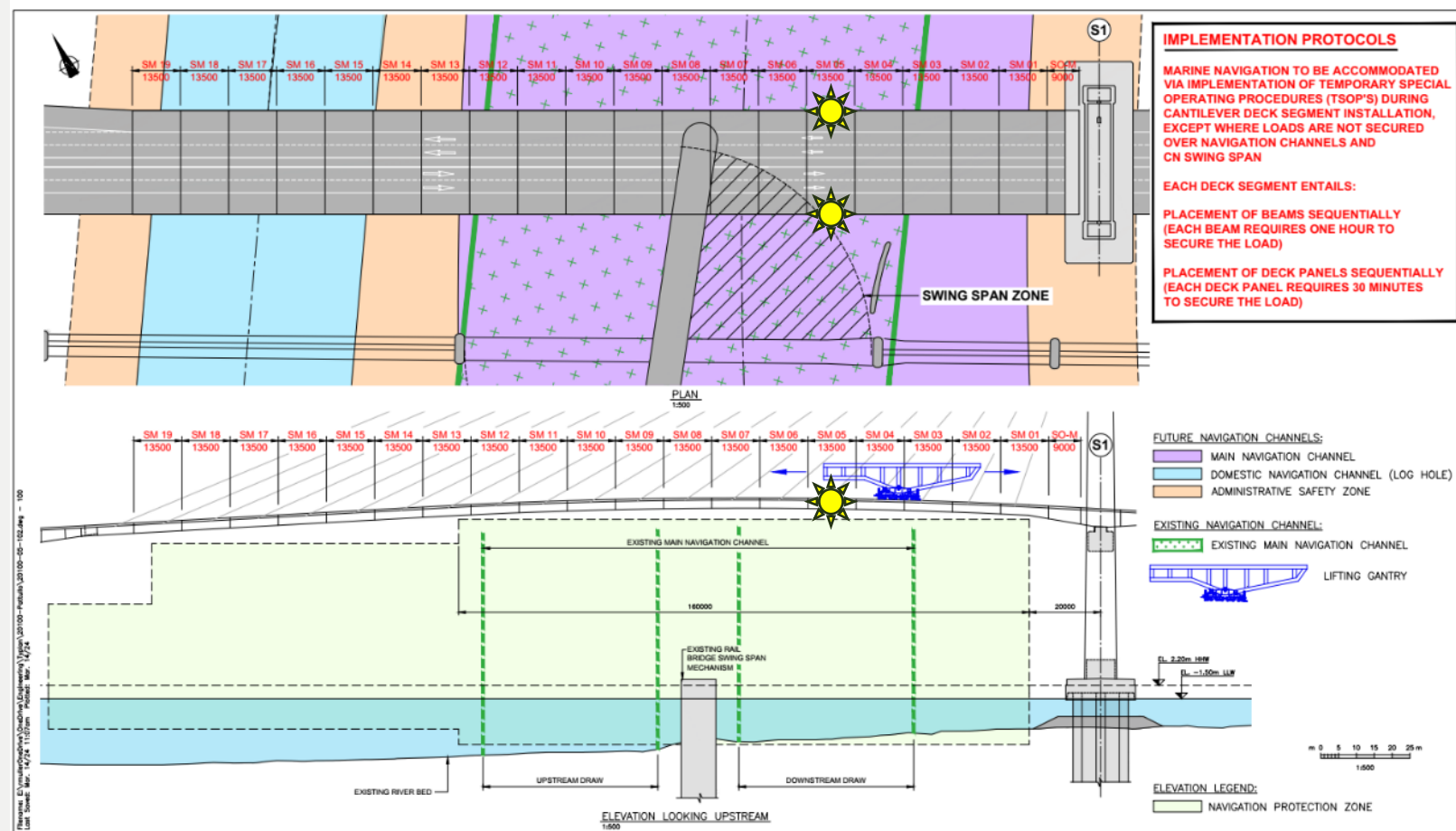


<div>CLIENT</div> <div>  </div>	<div>  </div>		
<div>PROJECT</div> <div> <p>PATTULLO BRIDGE REPLACEMENT PROJECT</p> </div>	<div>TITLE</div> <div> <p>COMMUNICATIONS FLOWCHART AND RESPONSIBILITIES</p> </div>		
	<div>DRAWING SCALE</div> <div> <p>SHOWN</p> </div>	<div>PROJECT NUMBER</div> <div> <p>20100</p> </div>	<div>DRAWING NUMBER</div> <div> <p>20100-00-851</p> </div>
			<div>REV.</div> <div> <p>P1</p> </div>

Accommodating Marine Transits

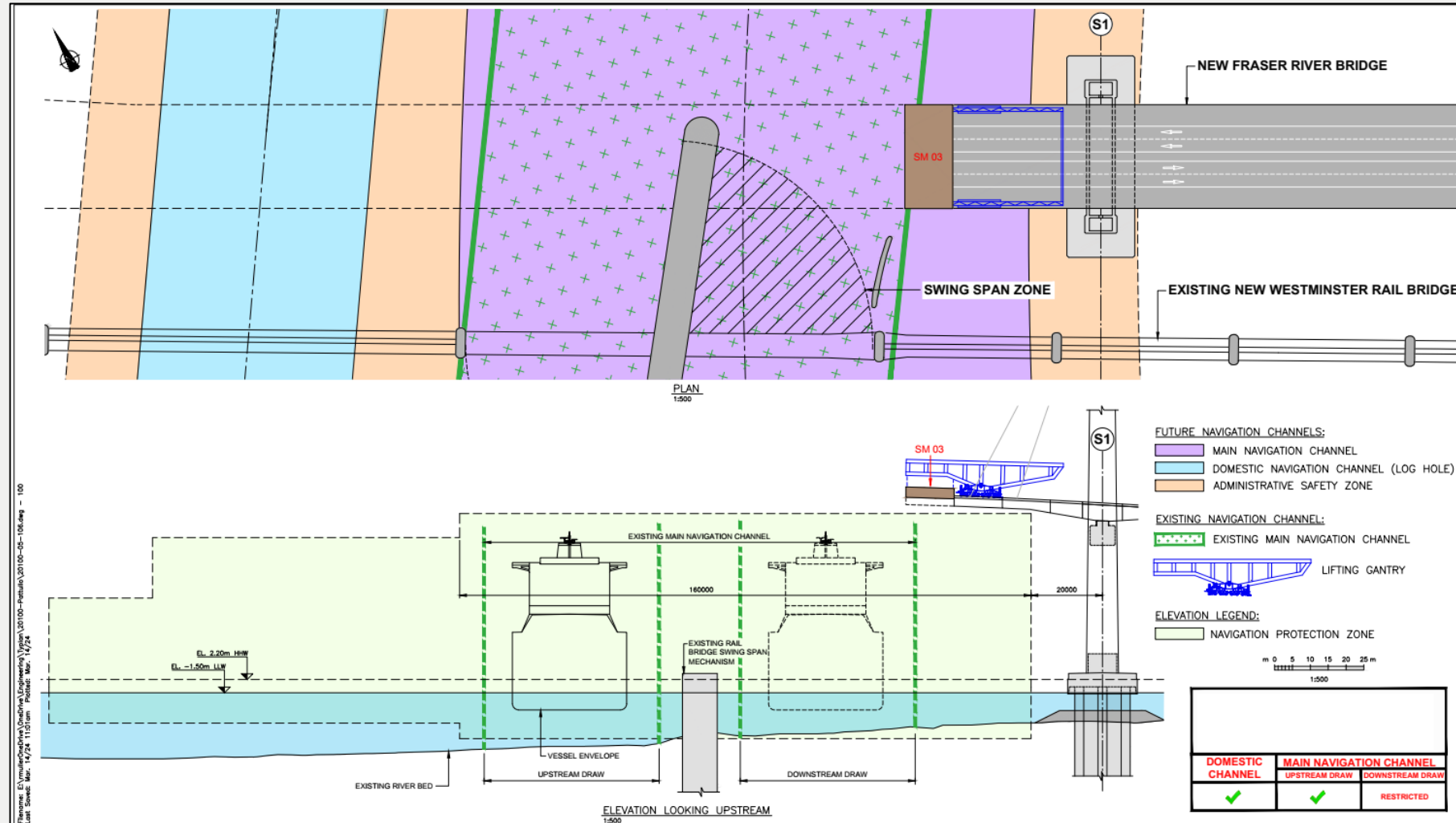
Navigational Lighting

- Color: Yellow
- Position: At bridge deck level, at deck segment being built.
- E.g. SM-05 construction, lights approx. position shown here:



4-Week Look-Ahead / Construction Staging

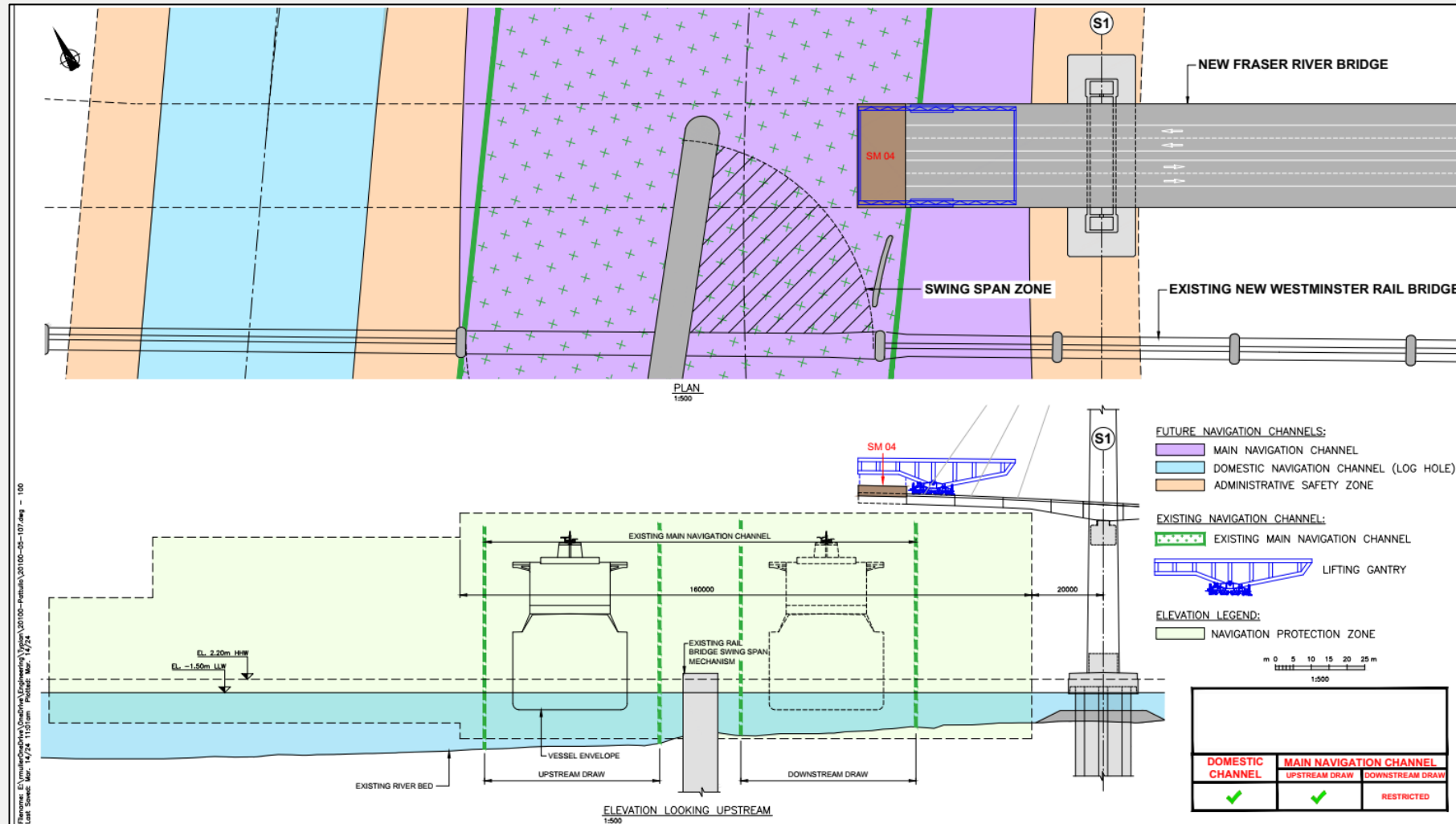
Construction Staging – Cantilever Construction Segment SM-03



- Started September 6
- Three-week duration
- Conditional restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

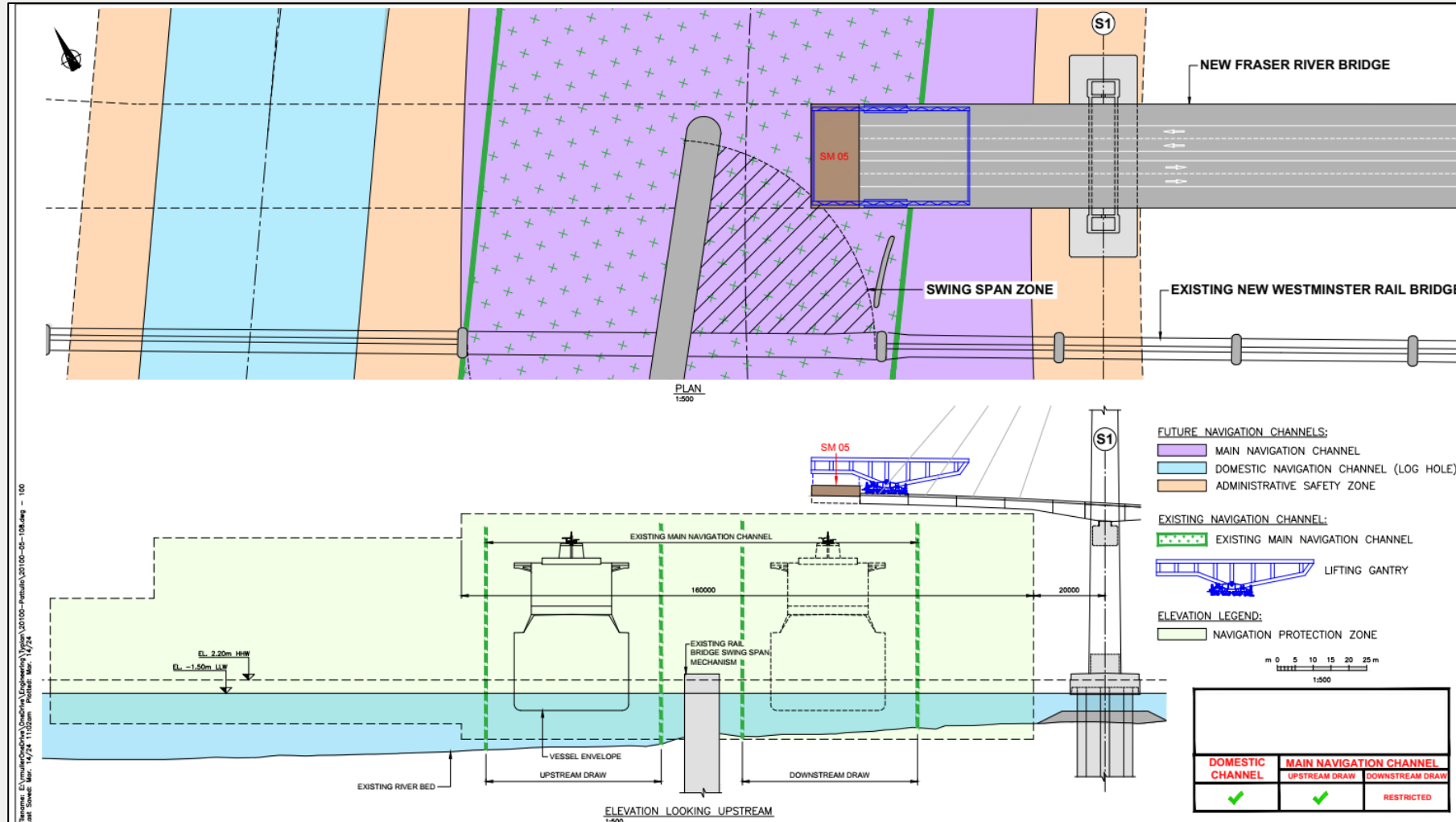
Segment SM-04



- Starting September 23
- Three-week duration
- Conditional restrictions in the downstream draw (approx. 11 hours, cumulative)

Construction Staging – Cantilever Construction

Segment SM-05



- Starting October 10
- 2-3 week duration
- Conditional restrictions in the downstream draw (approx. 11 hours, cumulative)

Next Steps

Ongoing NAVWARNs to be provided

Next Marine Users Working Group:

- October 24, 2024