



Marine Users Working Group

Presented By: Fraser Crossing Partners and
Transportation Investment Corporation

May 23, 2024

Welcome

- Review of March 28 Meeting Minutes
- Navigation Log
- Project Update
- River Monitoring Results
- Cantilever Construction Update
- Demolition Update
- 4 Week Look-Ahead Schedule
- Roundtable Discussion
- Next Steps

Review of Meeting Minutes

March 28, 2024

Meeting Minutes – March 28, 2024

- FCCGP provided a Project update and overview of upcoming works
 - Crews continue to make progress on S1, deck panel installation is underway, and N1 columns are complete
 - Girder and materials offloading ongoing on the North Bank – occasional deliveries by barge required
- FCCGP provided an update on the River Monitoring Program
 - The comparative results for January, February, and March 2024 reveal some sedimentation in the area of the future navigational channel, as noted by the VFPA (the upcoming freshet is likely to impact this area)
 - Post-freshet, a series of river profiles/cross-sections will be produced and shared
- FCCGP provided an overview of cantilever construction and sequencing
 - Two of the three navigational passages must be open for navigation
 - Interferences will be short and intermittent – TSOPs will be in place
 - 20 segments will cross the navigational channel (11 beams and 12 panels associated with each segment) – securing each beam requires approximately one hour to land, and each panel takes approximately 30 minutes)
 - In addition to planned 60-minute pre-calls, the use of amber lights and construction team spotters are also potentially available to communicate with mariners (the addition of a chase boat was also suggested)
 - Segment SM-01 continuing until mid-April

Navigation Log

Marine Occurrences as a Result of the Project

**No updates to report*

Project Update

Works in Progress

Project Update

S1 Tower Construction



Photo 1: Pier S1, looking south



Photo 2: Pier S1, looking north

Project Update

Ongoing bridge deck construction and cable stay installation



Photo 3: Bridge deck and cable stays, looking north



Photo 4: Bridge deck and cable stays, looking south

Project Update

Pier N1 column construction



Photo 5: Pier N1 columns and girder installation at N2, looking west



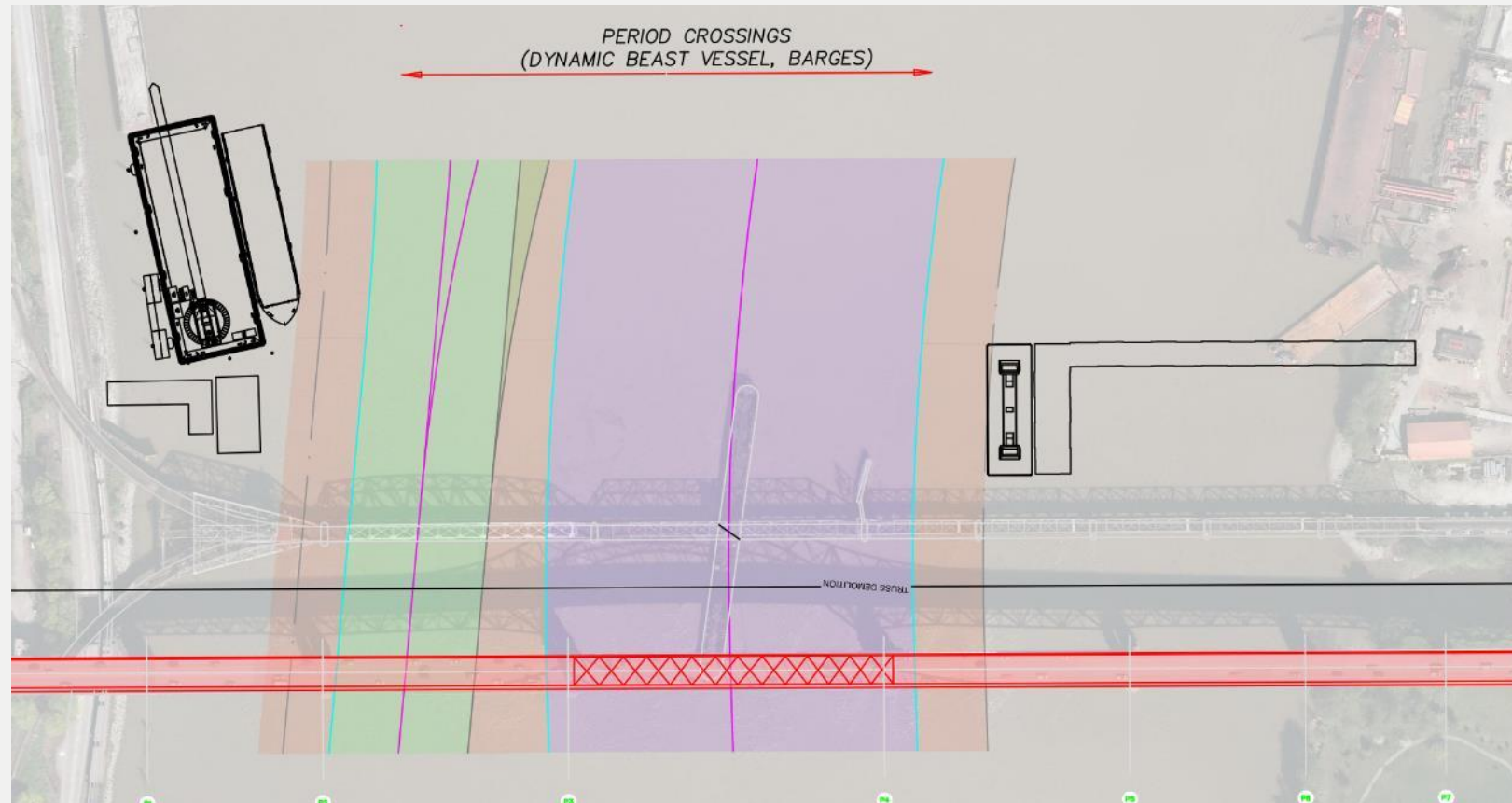
Photo 6: Pier N1 columns and girder installation at N2, looking south



Project Update

Girder offload and installation for the North Approach and South Approach

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



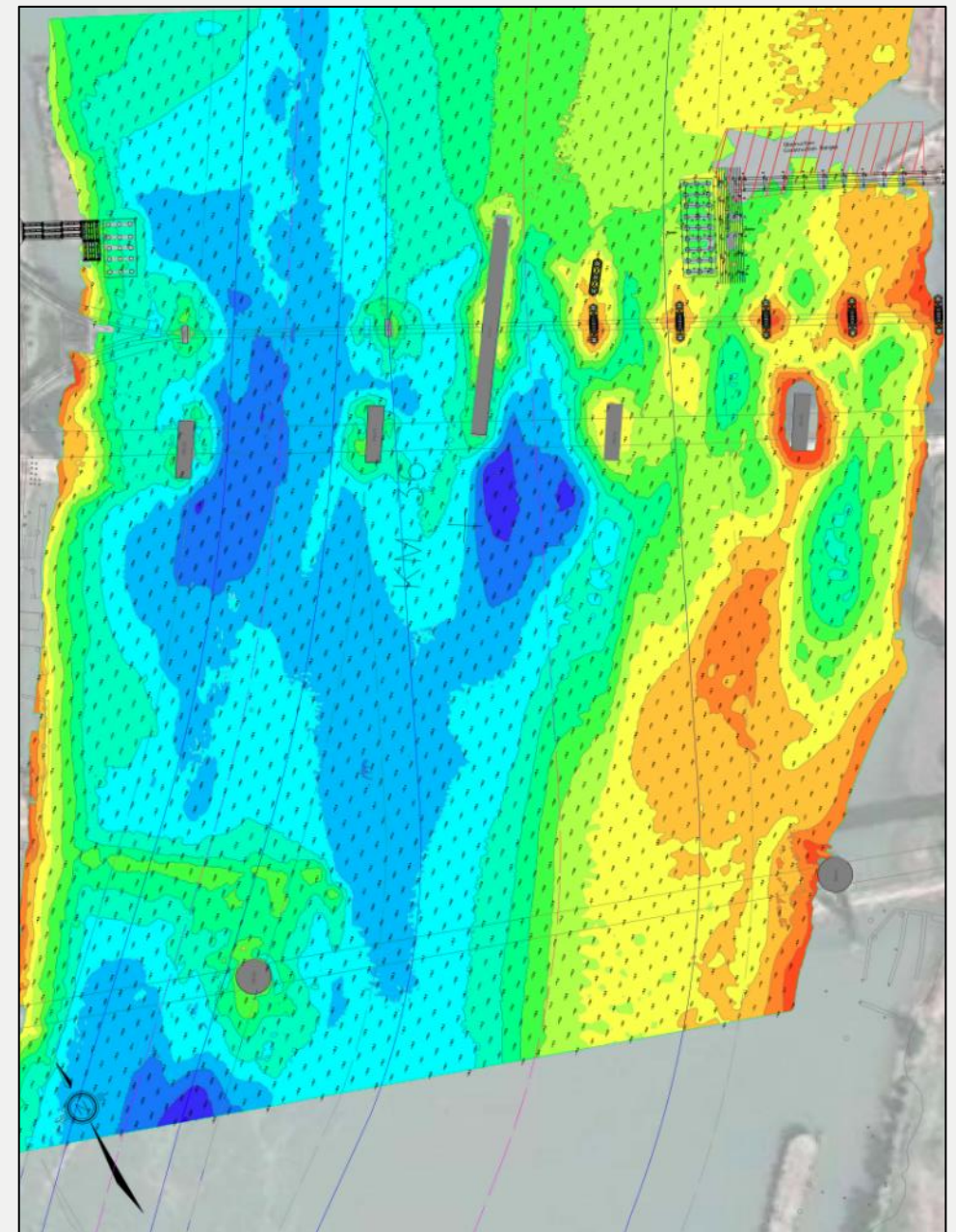
Update on River Monitoring Program

May Bathymetric Survey Results

Bathymetry Monitoring Survey – May 6, 2024

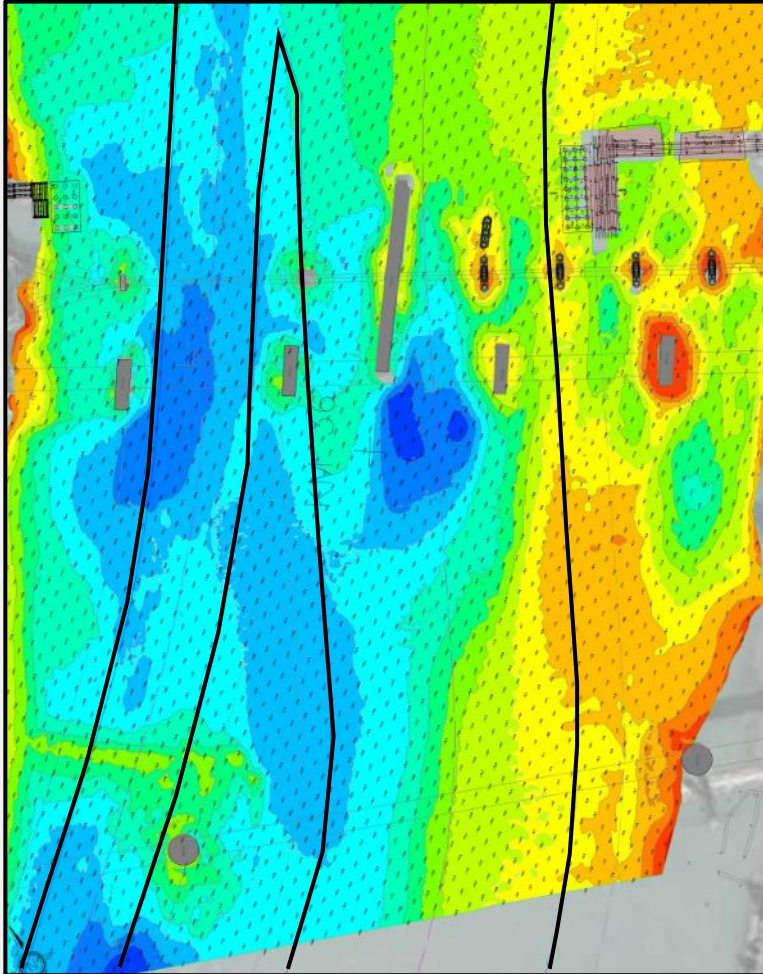
- Results of monthly bathymetric surveys reviewed at MUWG/IMUWG meetings
- Results by cross sections (A – F) to be presented post-freshet 2024

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 Grey
2	-24.00	-26.00	Medium Grey
1	-26.00	-28.00	Light Grey

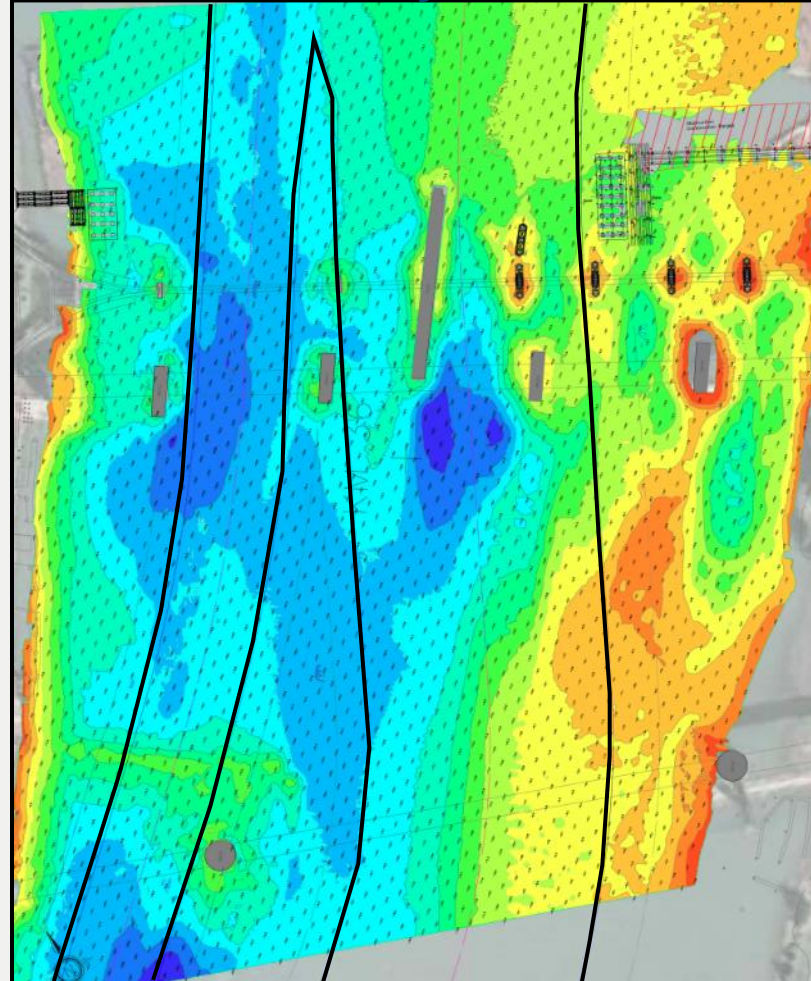


Bathymetry Results: Comparison from Jan – May 2024

January 4



May 6



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
11	-6.00	-8.00	Light Green
10	-8.00	-10.00	Yellow-Green
9	-10.00	-12.00	Green
8	-12.00	-14.00	Light Blue
7	-14.00	-16.00	Cyan
6	-16.00	-18.00	Blue
5	-18.00	-20.00	Dark Blue
4	-20.00	-22.00	Very Dark Blue
3	-22.00	-24.00	Dark Blue
2	-24.00	-26.00	Blue
1	-26.00	-28.00	Dark Blue

Cantilever Construction

Overview and update

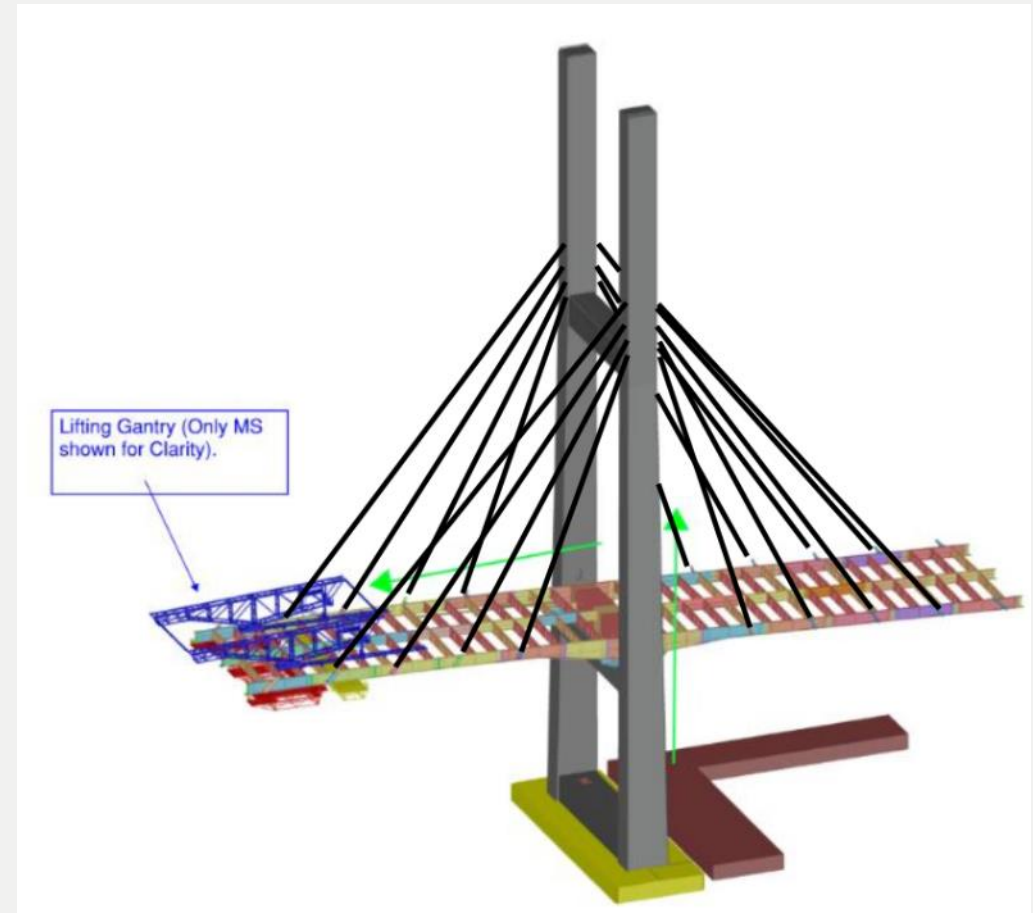
Construction Staging During Cantilever Construction: Navigation Protection Matrix

During Cantilever construction, with the exception of short periods of time to secure bridge deck works, **all 3 channels** will be open to Navigation

Construction Staging Area	Main Channel Downstream Passage	Main Channel Upstream Passage	Secondary Channel
Main Channel Downstream Passage	Restrictions to Navigation	Open	Open
Main Channel Upstream Passage	Open	Restrictions to Navigation	Open
Secondary Channel	Open	Open	Restrictions to Navigation

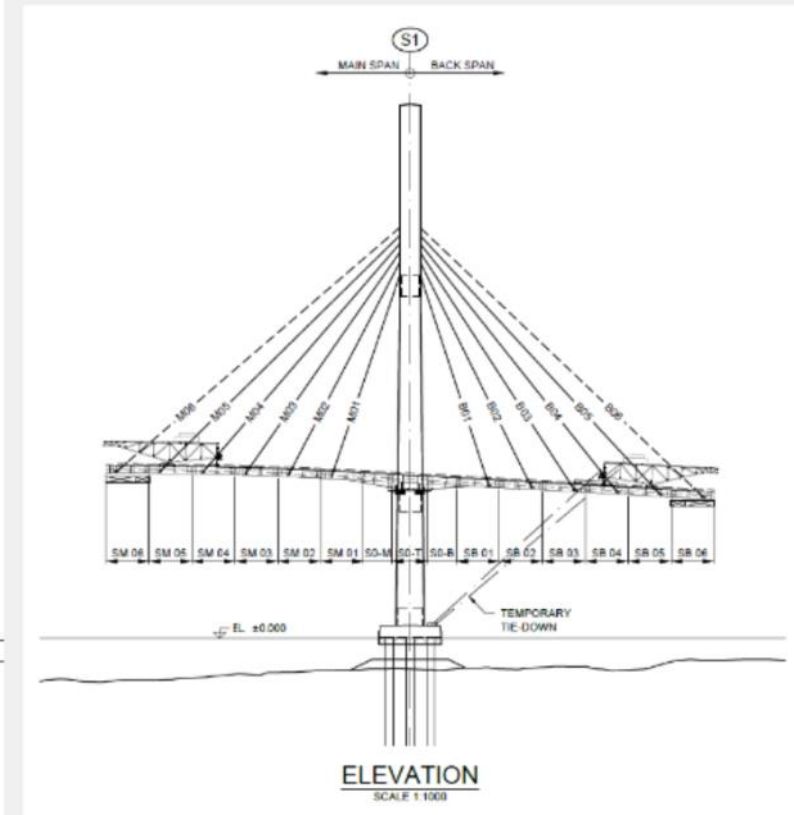
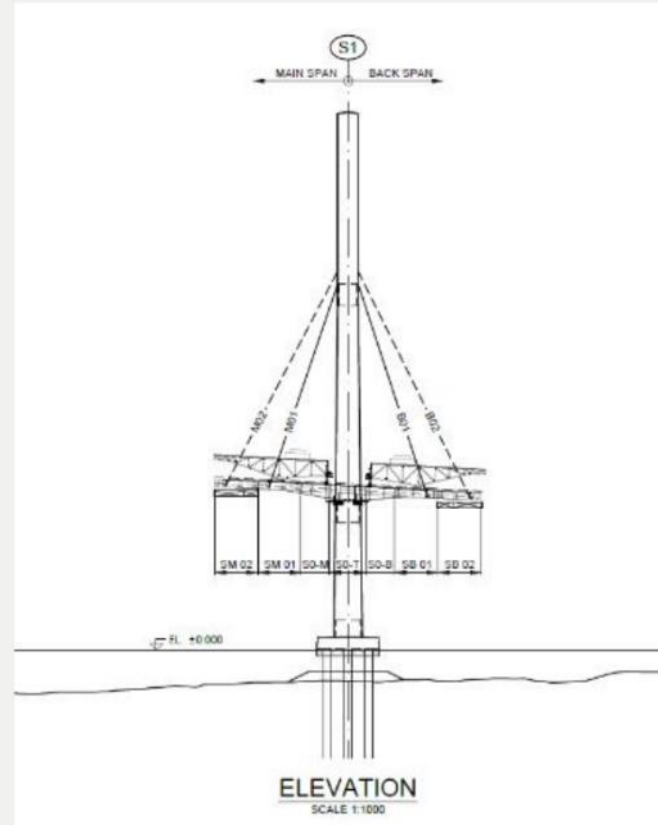
Protecting Marine Navigation During Cantilever Construction

- The introduction of the lifting gantry significantly reduces potential "interferences" to navigation during cantilever construction
- The interferences to navigation occur during construction activities needed to: "secure beams and panels" associated with installation of each segment

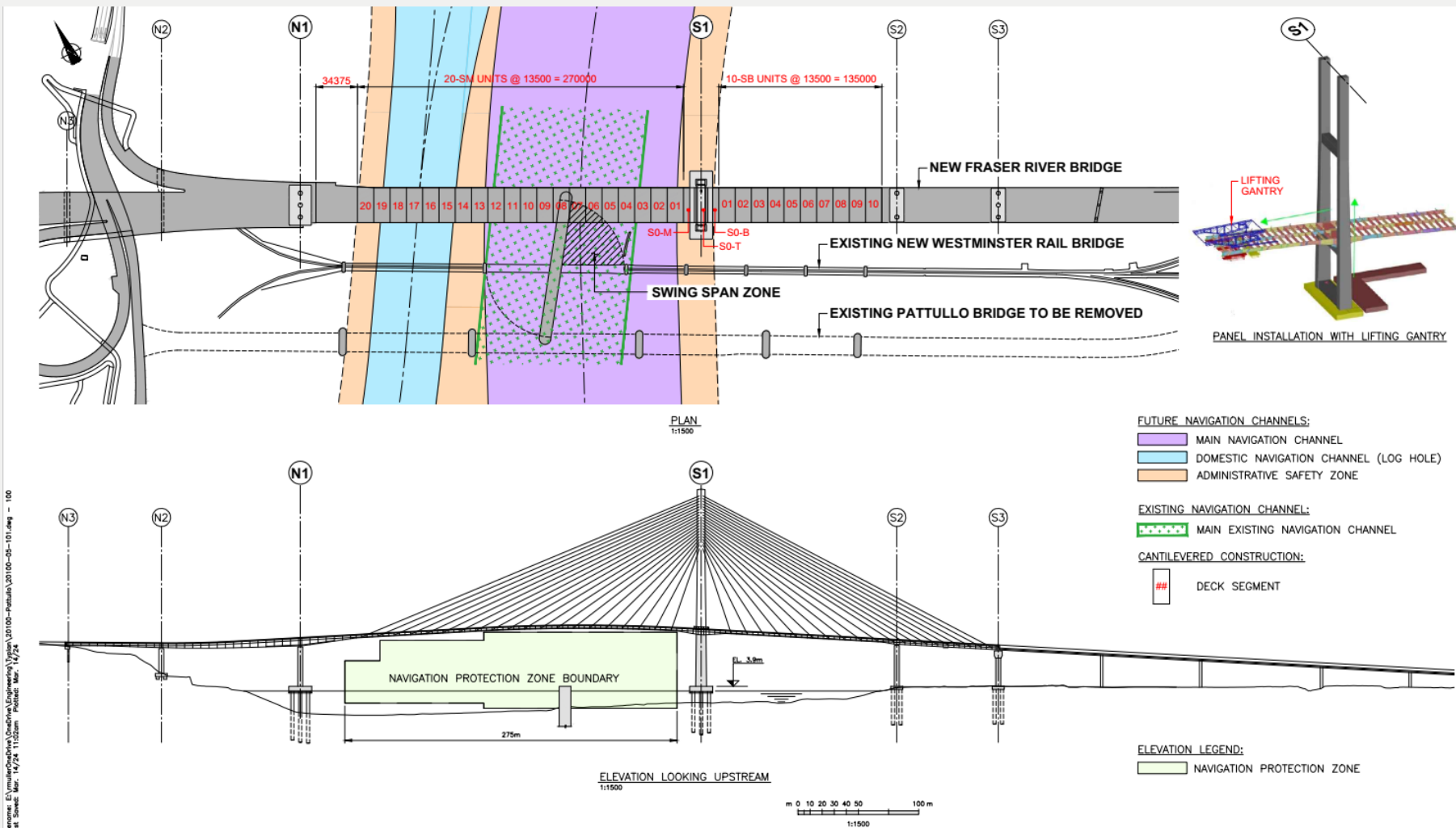


Cantilever Construction Overview

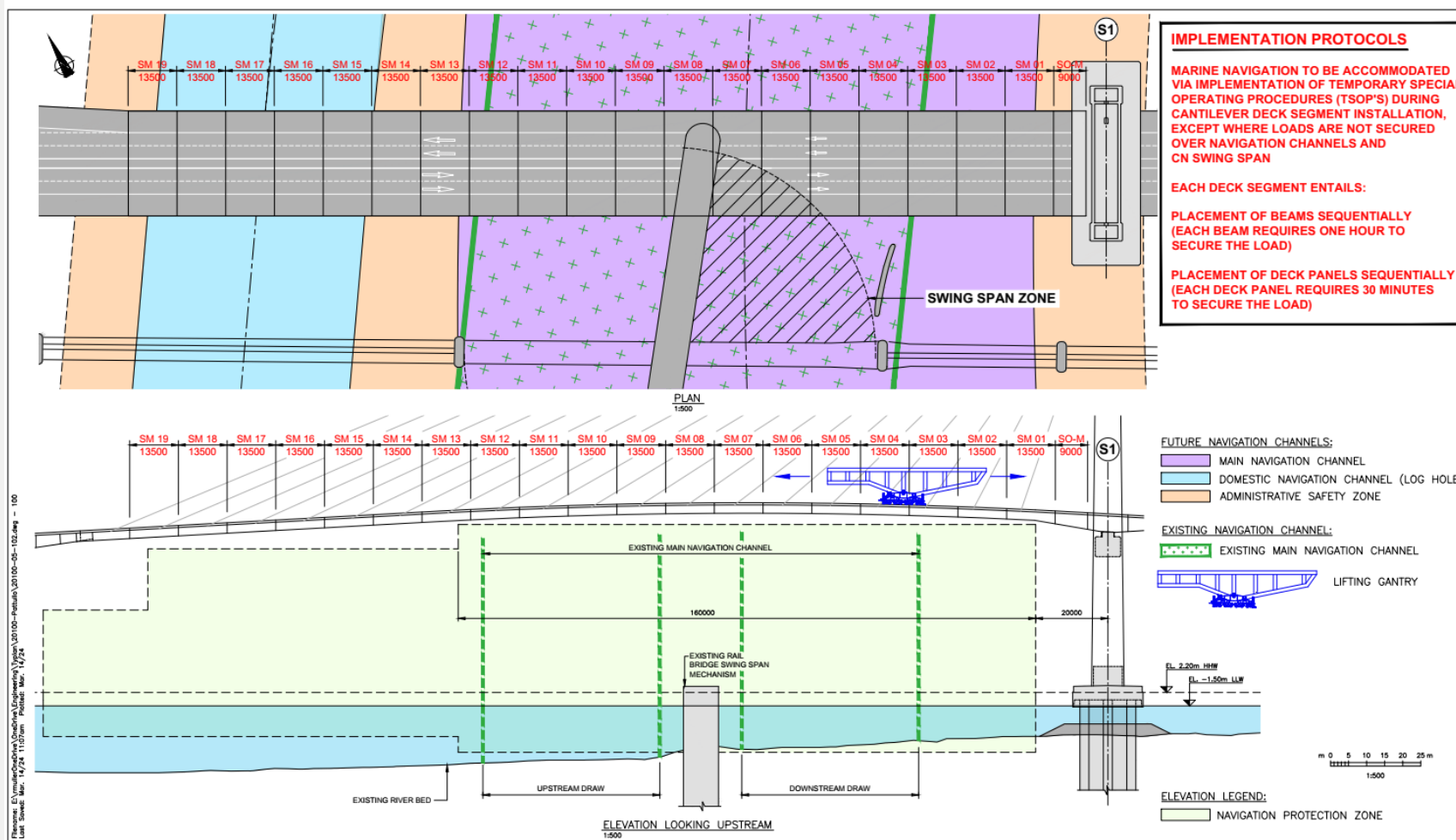
- For each of the 20 segments there are approximately 11 beams and 12 panels to be secured
 - To secure each beam requires 1 hour
 - To land each panel requires 30 minutes
- TSOP's used to further reduce interferences



Cantilever Construction Overview



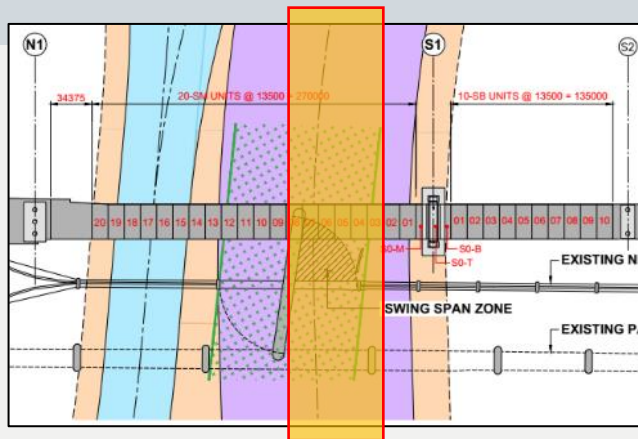
Cantilever Construction Navigation Protection Zone



Interferences to Navigation in the Main and Domestic Navigation Channels Resultant from Cantilever Construction (approx)

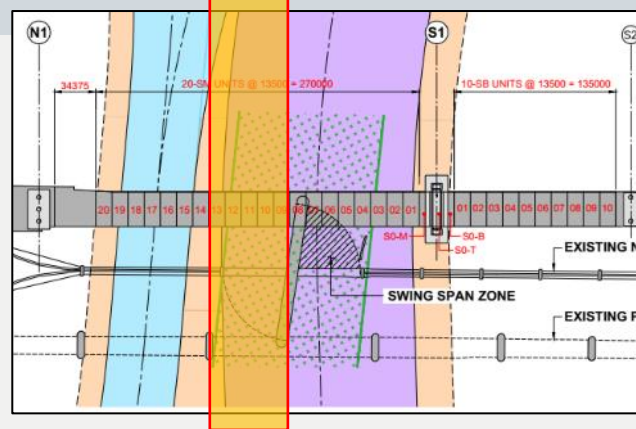
Main Navigation Channel Downstream (SM-03 to SM-08)

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



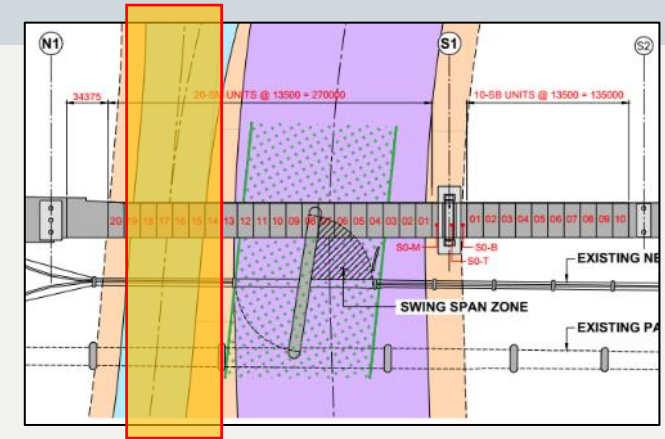
Main Navigation Channel Upstream (SM-09 to SM-13)

- 100 calendar days (~Oct-Dec/24)
- 72 hrs of interference
- Downstream navigation channel open at all times



Domestic Navigation Channel (M-14 to-19)

- 80 calendar days (~Dec-Jan/25)
- 96 hrs of interference
- Both upstream and downstream navigation channels open at all times



Demolition Staging Update

Anchor Lines will be required to support some marine "picks" and subsequent truss removal

Demolition – Updated Anticipated Schedule

- **Bridge Main Span**

- Concrete deck panel removal (Q1 2026)
- Stringers and deck bracing (Q1-Q2 2026)
- Steel truss removal (Q1-Q2 2026)

- **Bridge Pier Removal**

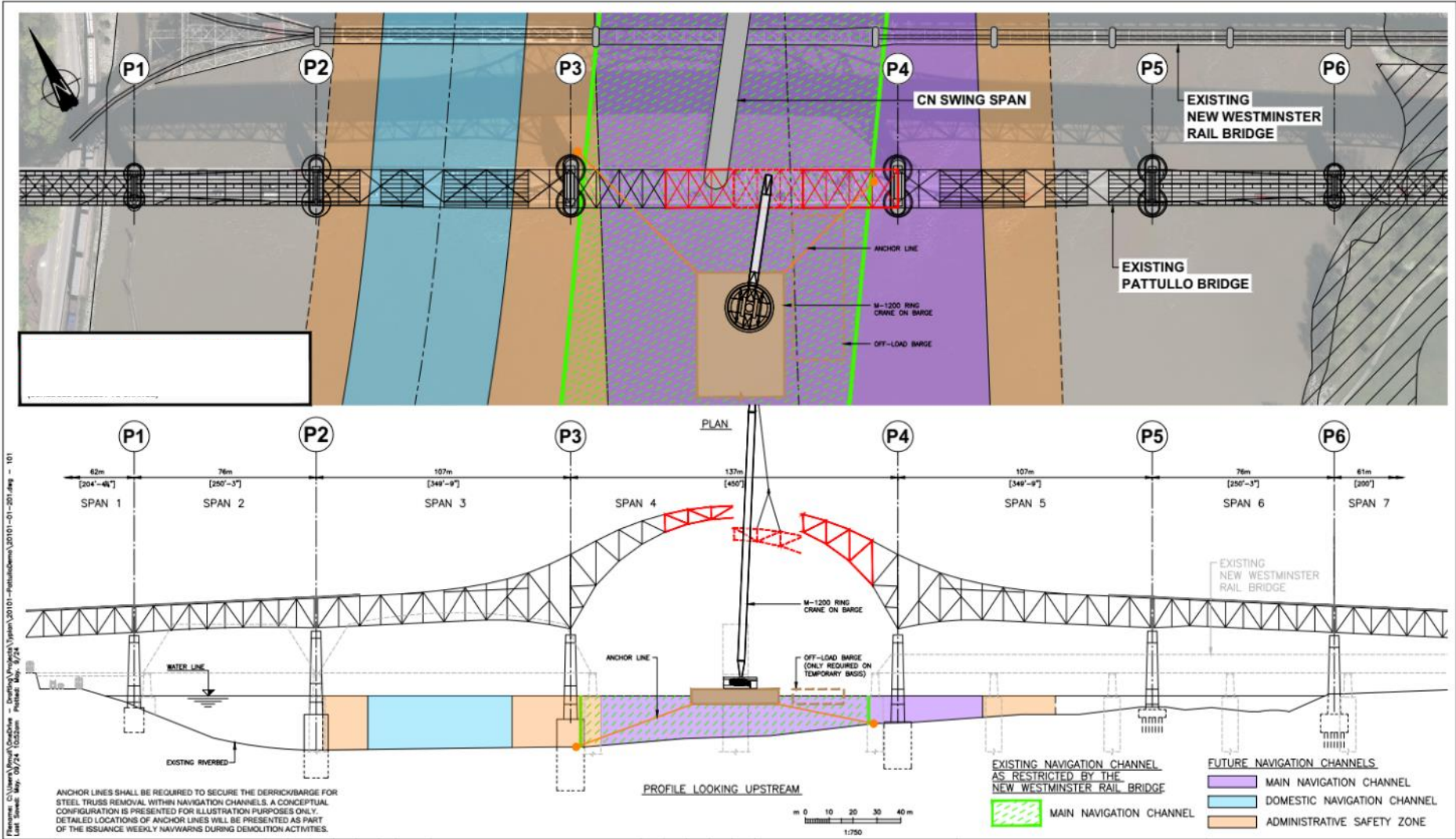
- Above water pier removal (Q2-Q3 2026)
- In-river pier removal below the high-water mark (Q3-Q4 2026)

Schedule subject to change. Updates will continue to be shared as part of the IMUWG/MUWG meetings

Anchor Lines

- Anchor lines will be required to secure the derrick barge for steel truss removal
- "Conceptual" illustrations are presented for those activities focused on the main navigation channel and domestic navigation channel
- **General locations of anchor lines** will be presented as part of the **MUWG/IMUWG monthly meetings (if required)**
- **Detailed design layouts of anchor lines for navigation purposes will be identified as part of NAVWARNS**

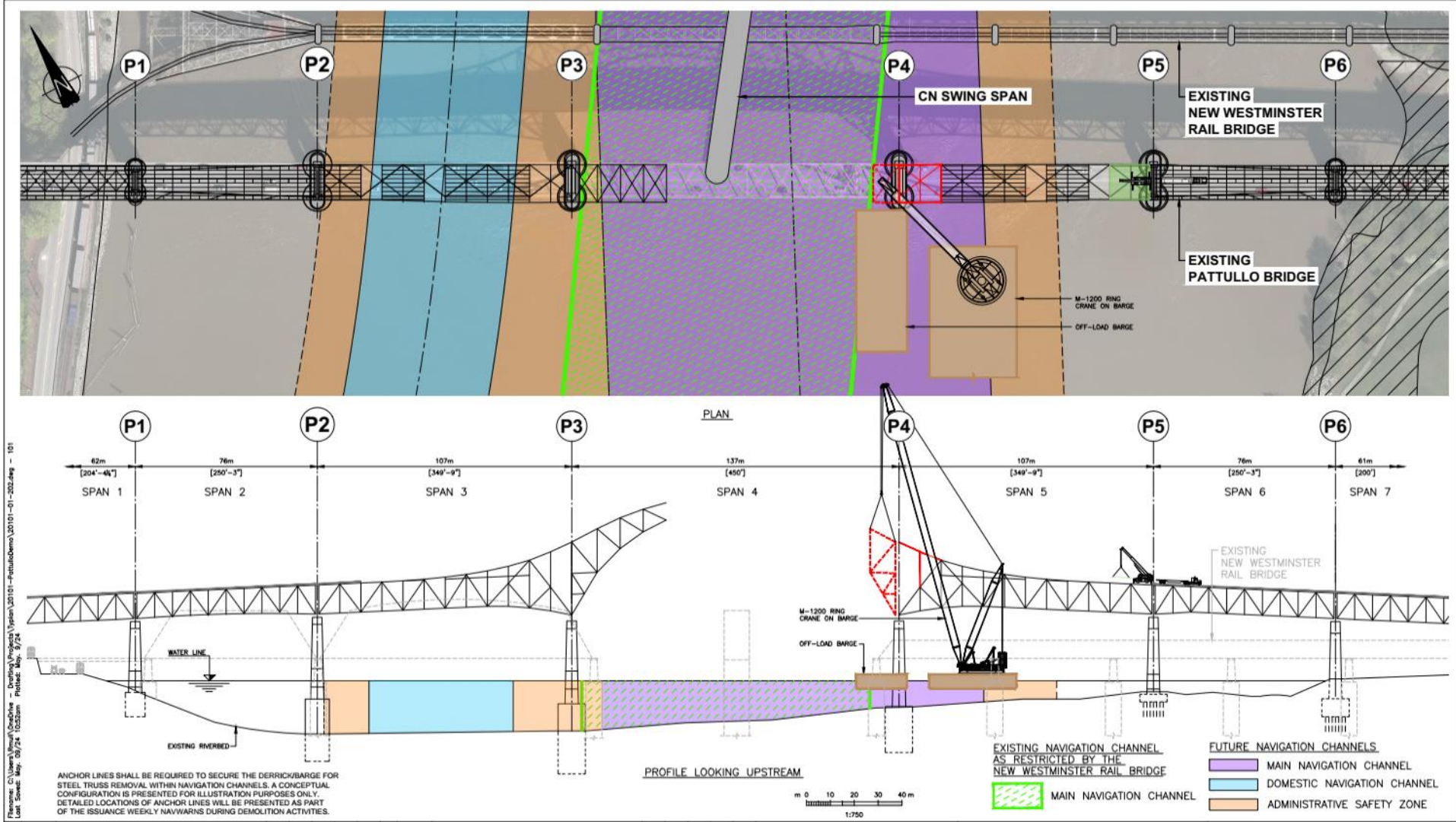
Demolition – Span 4



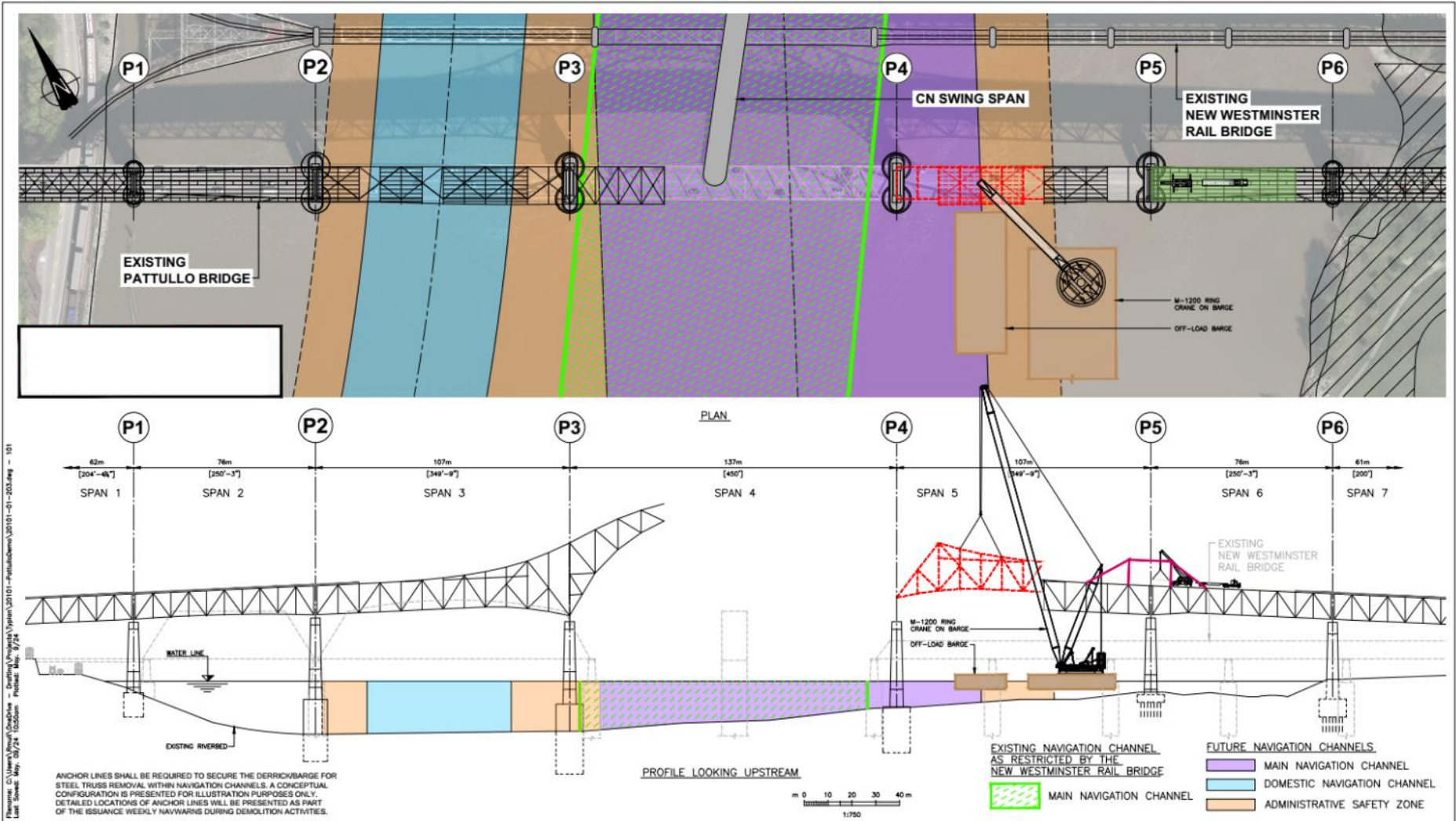
Positioning of Marine Construction Staging equipment

- Loads associated with the removal of the "trusses" are "significant" and complex to move onto the off-load barge
- Potential need for supporting anchor lines
- All attempts will be made to move the marine construction equipment away from the navigation channels pending detailed design, review of tides and other environmental factors (e.g., wind waves etc.,)

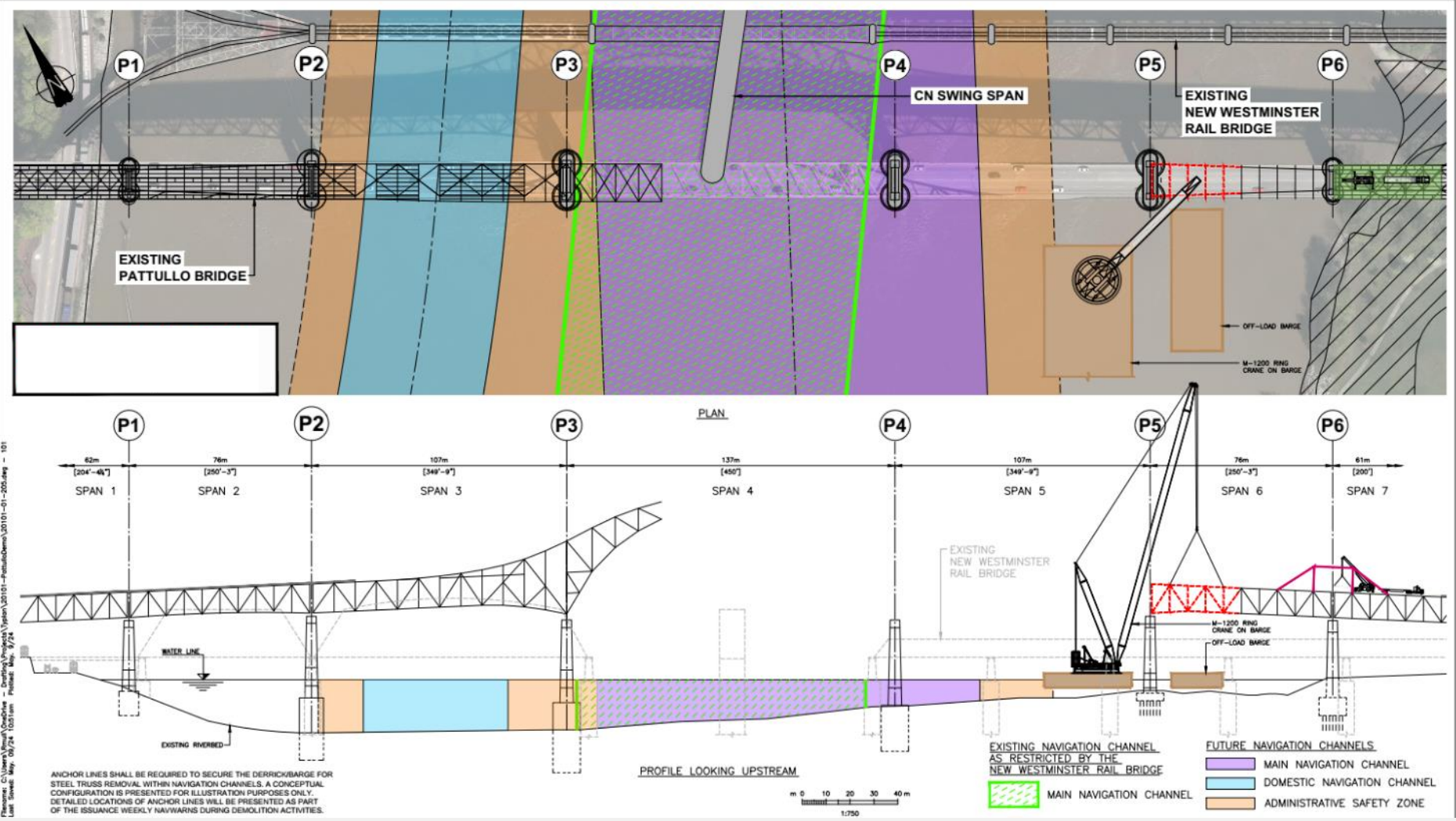
Demolition – Span 4 and 5



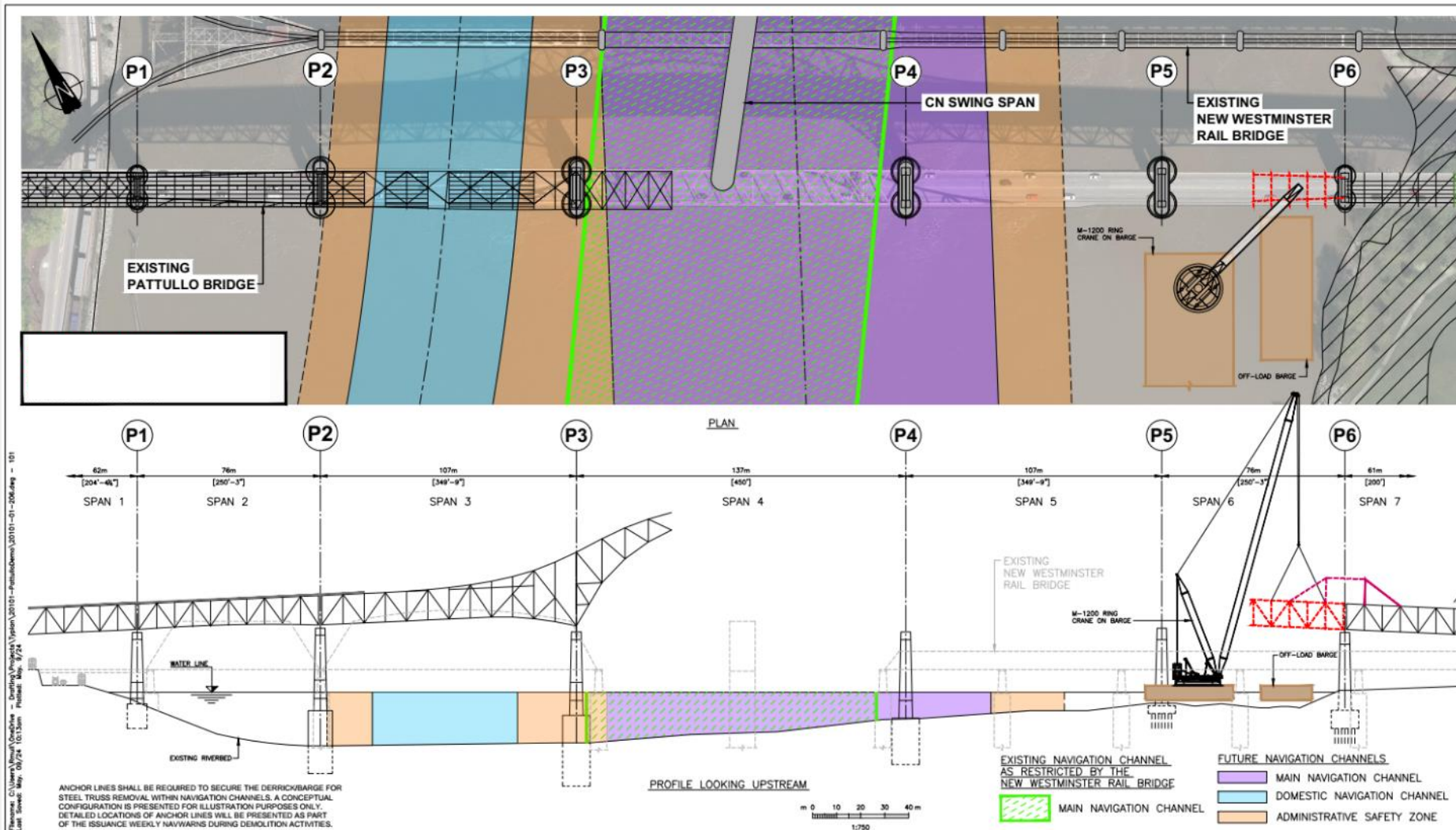
Demolition – Span 5 Truss Removal, Span 6 Deck Removal



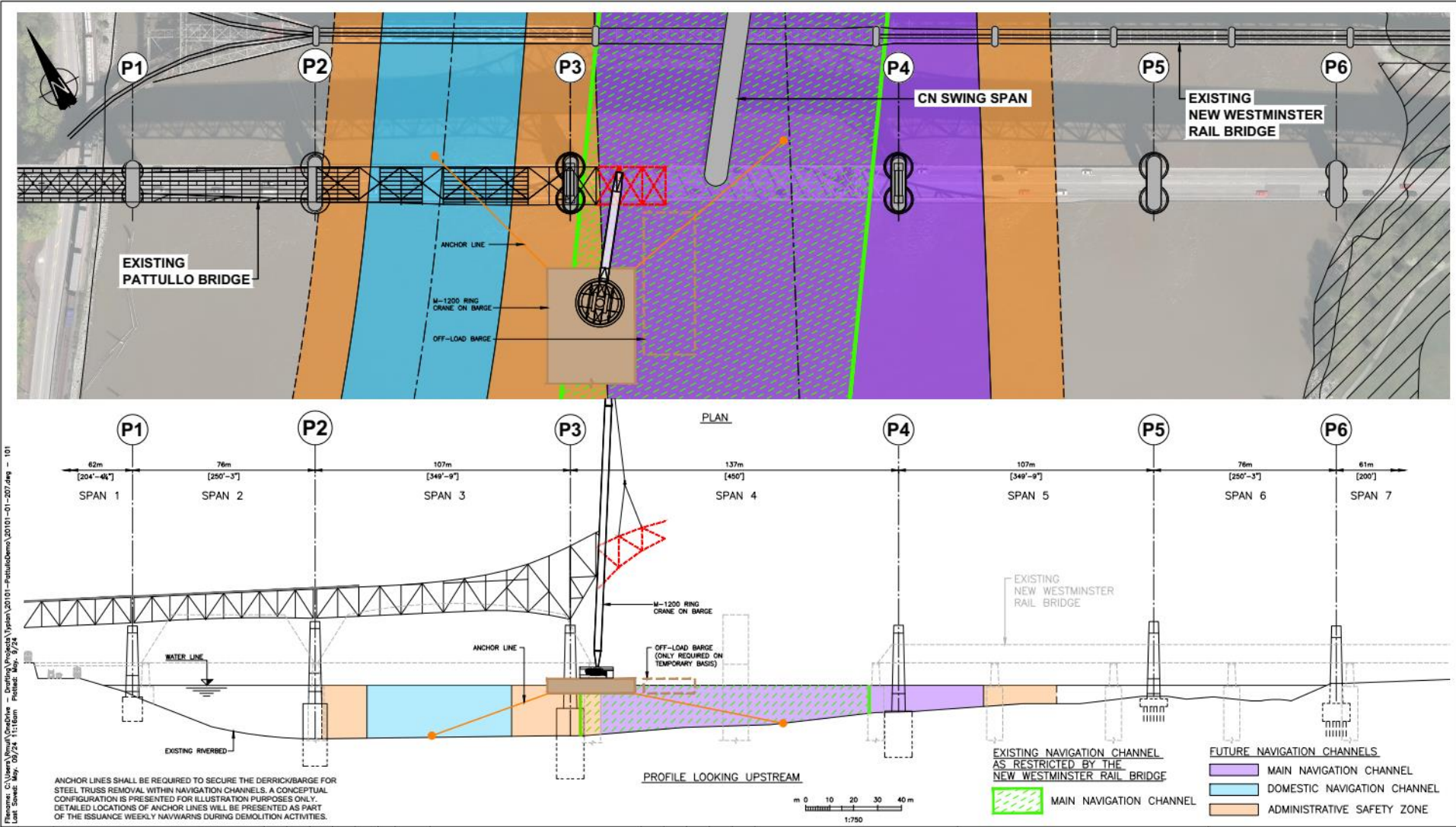
Demolition – Span 6 Truss Removal, Span 7 Deck Removal



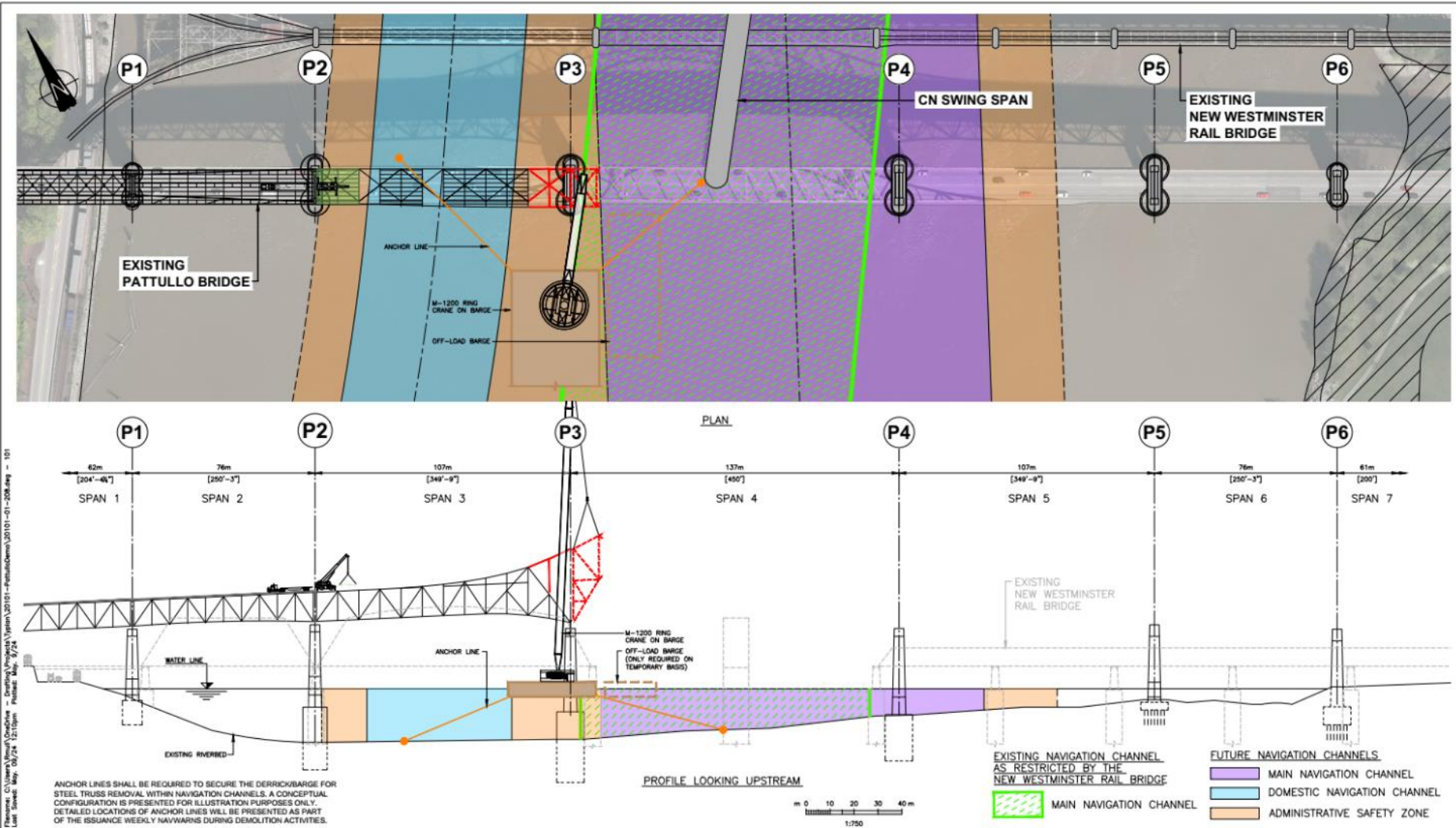
Demolition – Span 6 Truss Removal, Span 7 Deck Removal



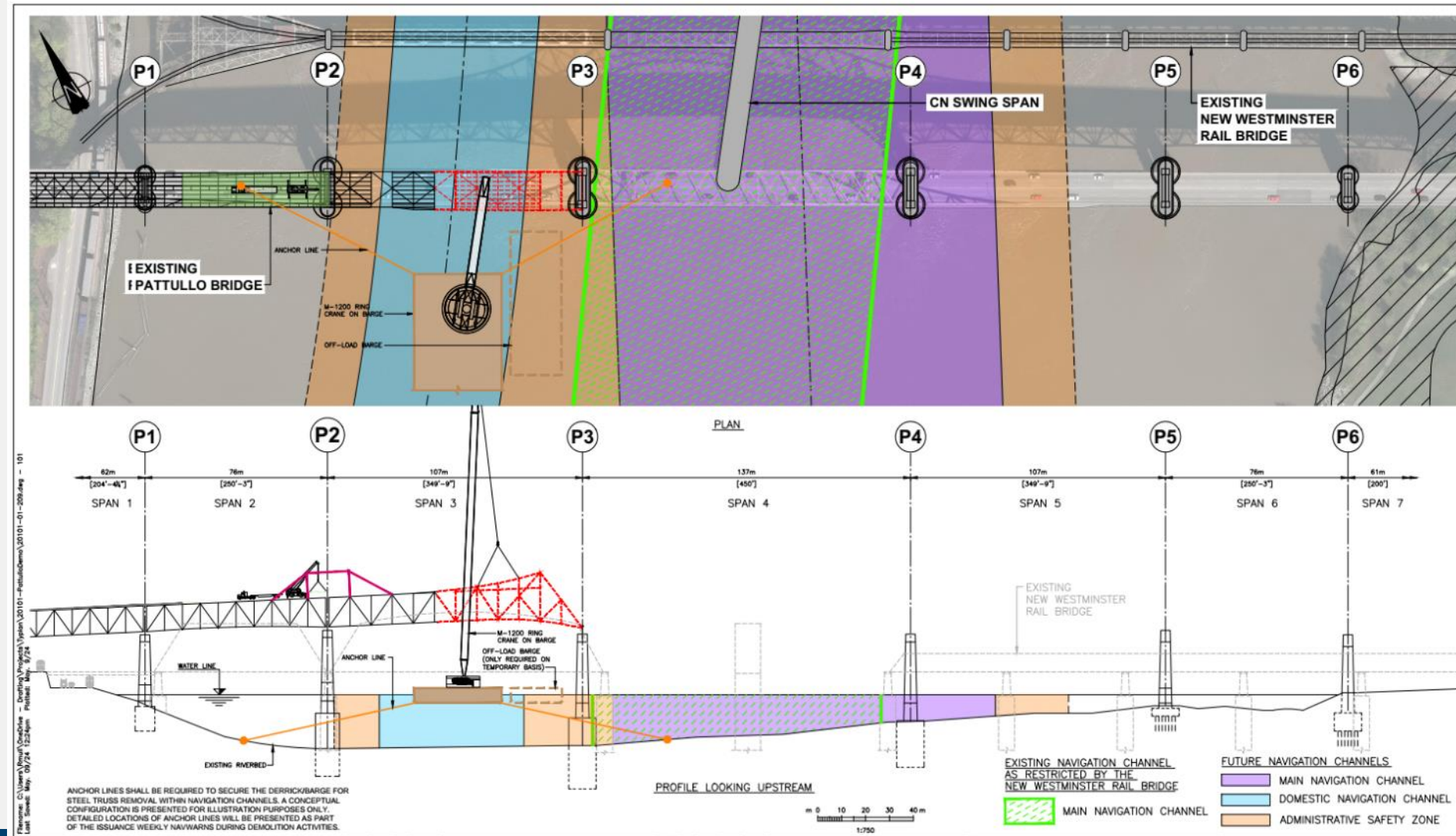
Demolition – Span 4 Truss Removal



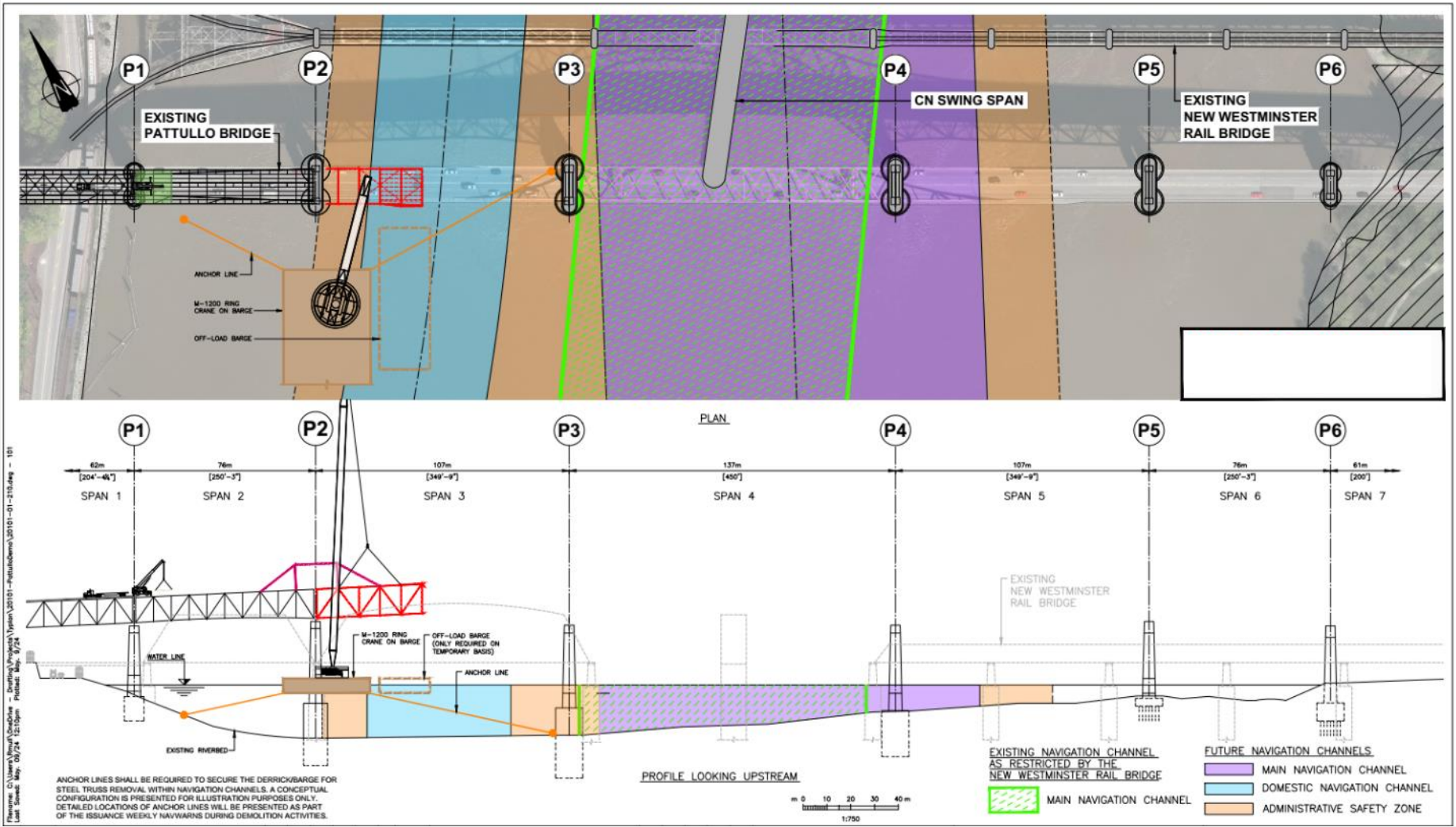
Demolition – Span 3/4 Truss Removal, Span 3 Deck Removal



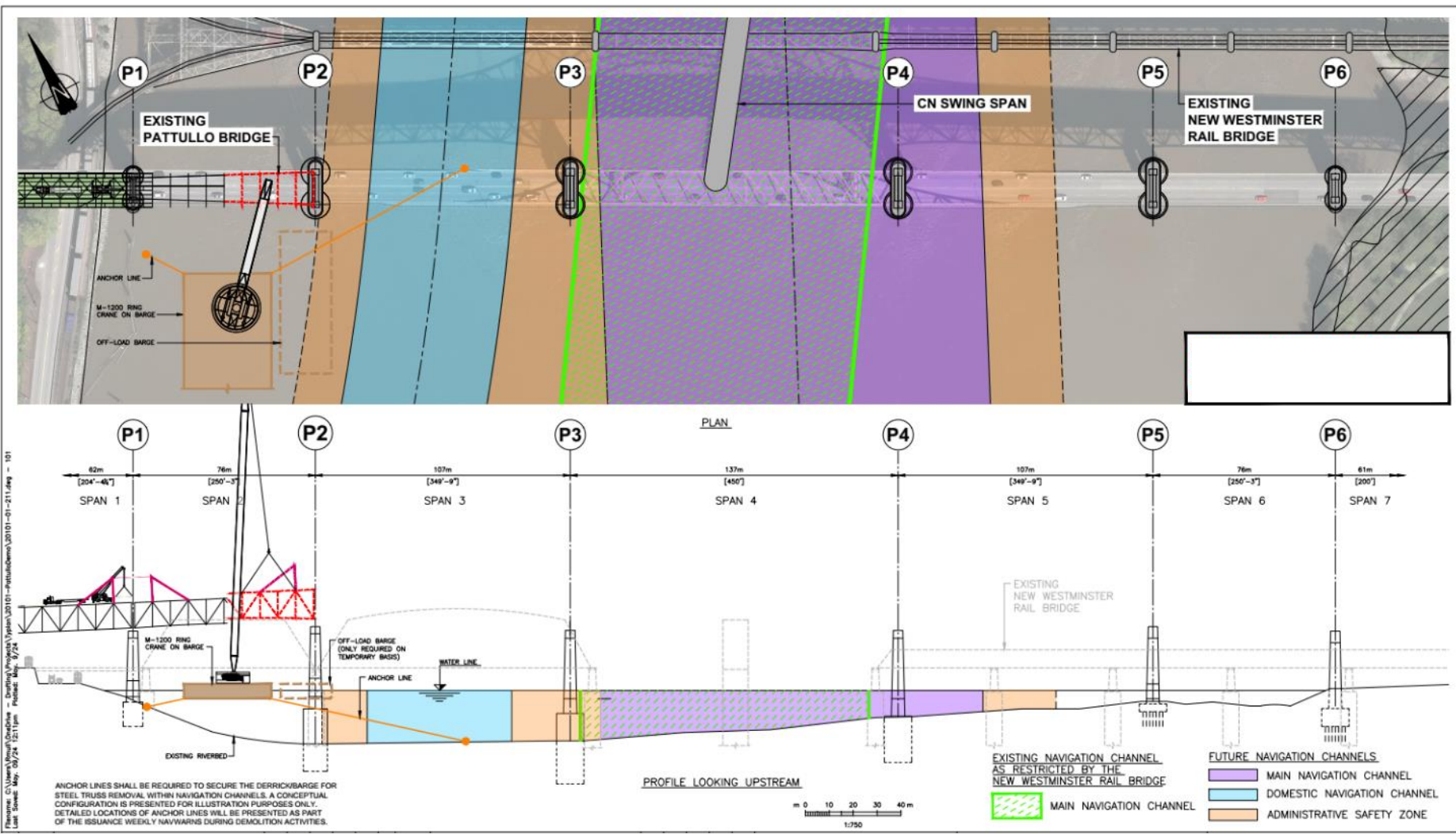
Demolition – Span 3 Truss Removal, Span 4 Deck Removal



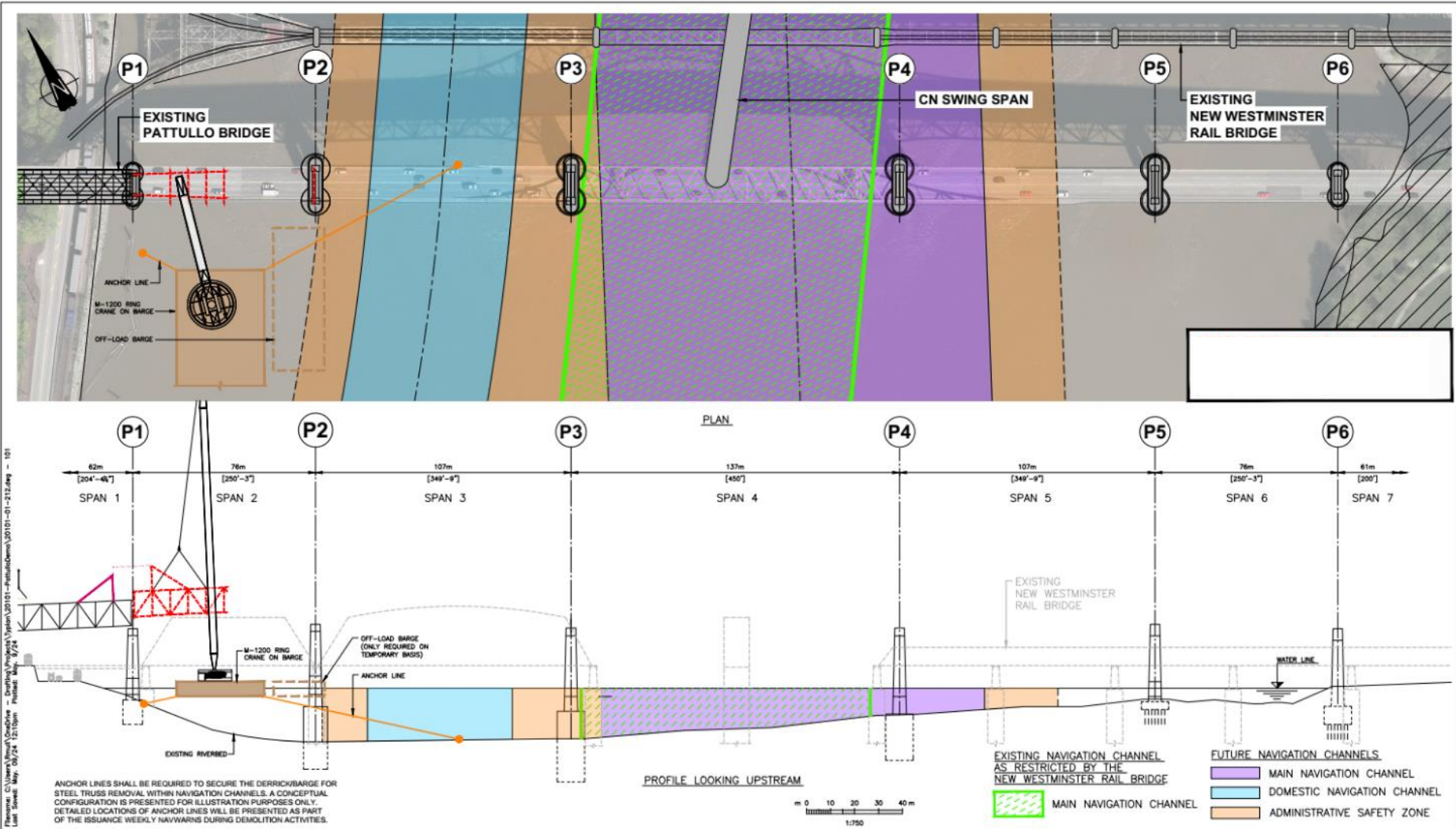
Demolition – Span 3 Truss Removal, Span 2 Deck Removal



Demolition – Span 2 Truss Removal, Span 1 Deck Removal

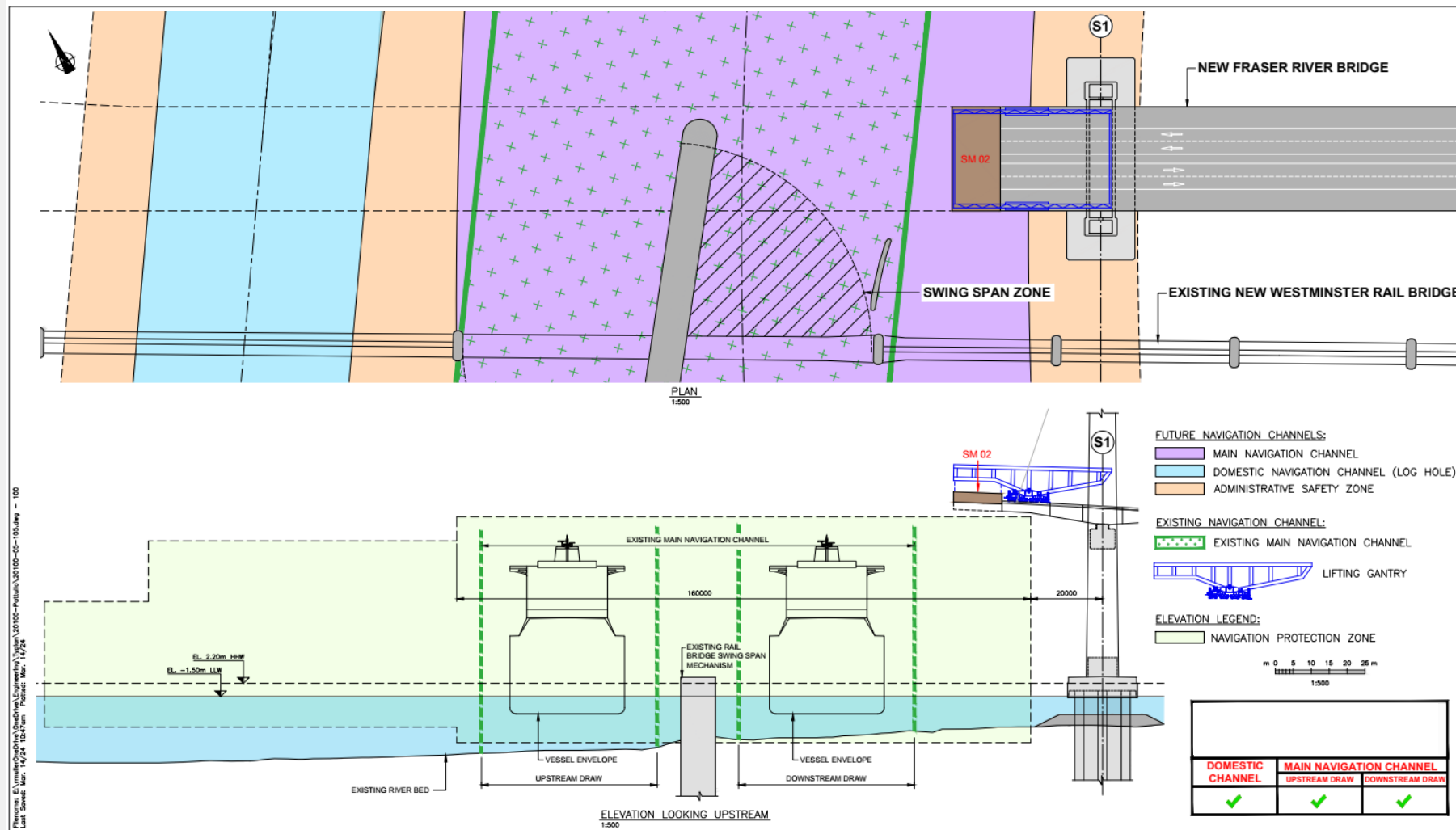


Demolition – Span 2 Truss Removal, Span 1 Deck Removal



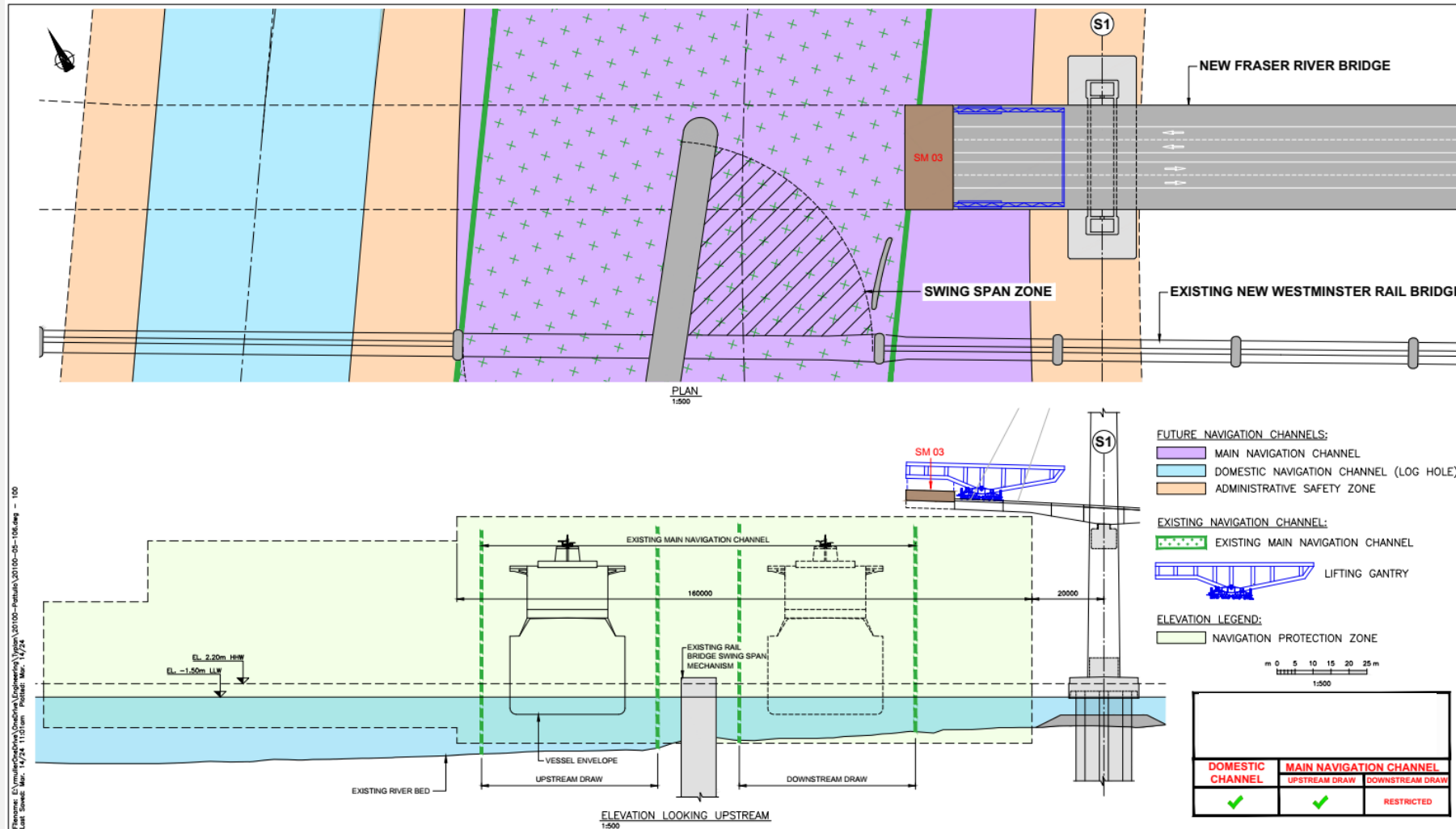
4-Week Look-Ahead / Construction Staging

Construction Staging – Cantilever Construction Segment SM-02



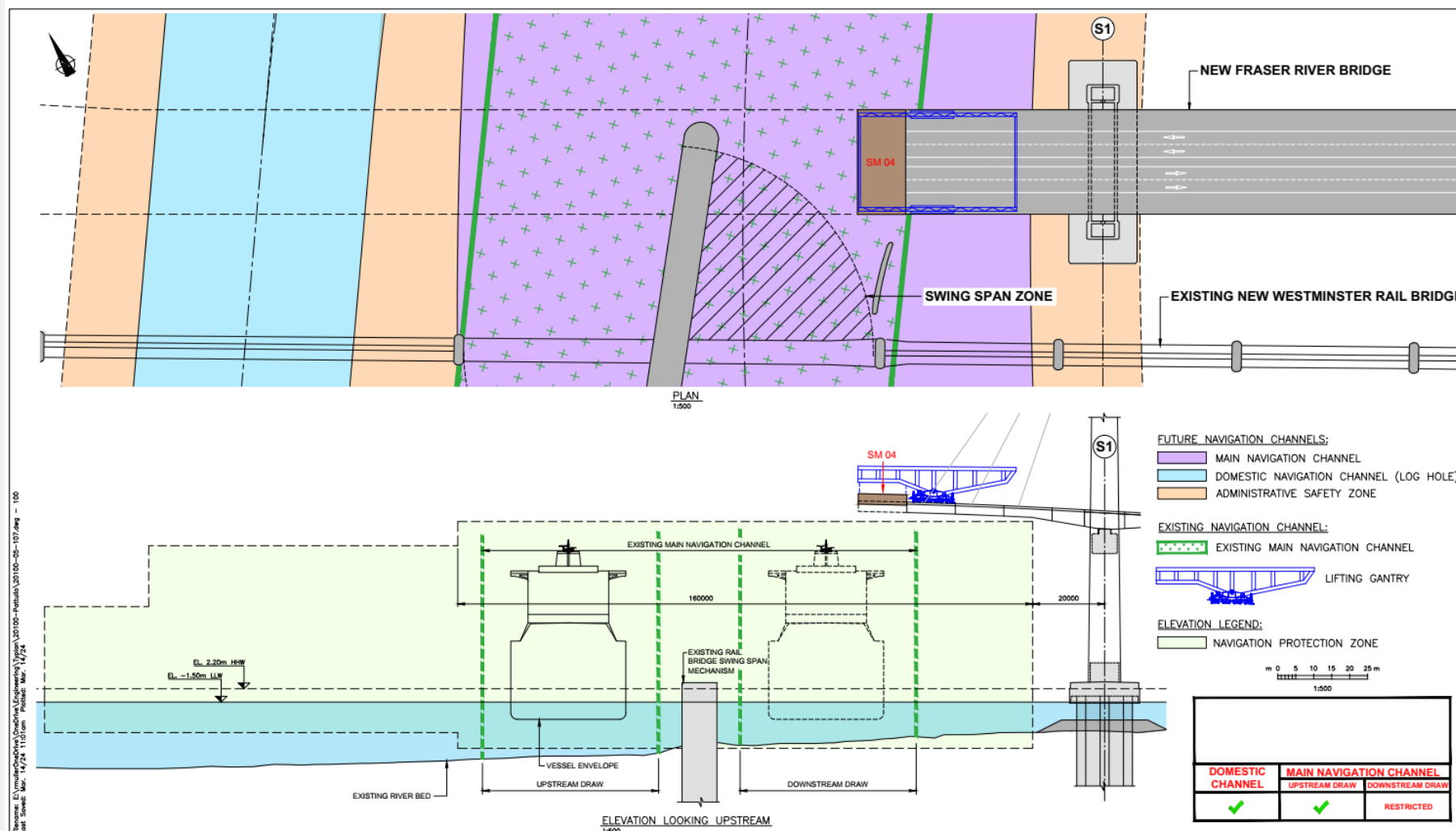
- Ongoing to end of May 2024
- No navigational impacts

Construction Staging – Cantilever Construction Segment SM-03



- Between June 1 to 15, 2024
- Three-week duration
- Restrictions in the downstream draw (approx. 11 hours)

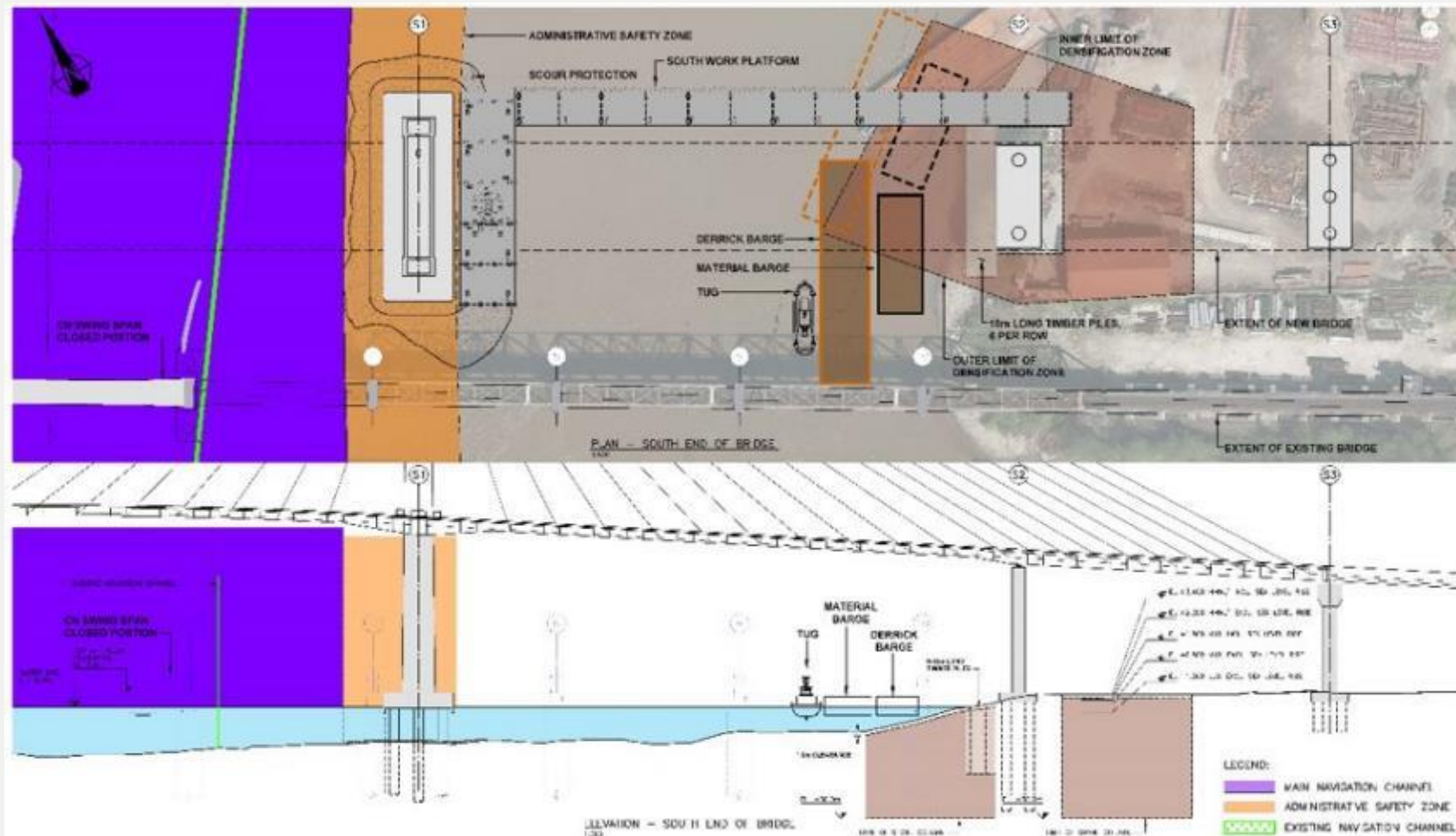
Construction Staging – Cantilever Construction Segment SM-04



- Ongoing between mid-end June 2024
- Three-week duration
- Restrictions in the downstream draw (approx. 11 hours)

Construction Staging – South Bank Pier S2 Soil Densification Works

- Anticipated Start:
 - June 17
- Schedule:
 - Timber Piling ~2 to 3 weeks
 - CPT ~1 week



Next Steps

Ongoing NAVWARNs to be provided

Next Marine Users Working Group:

- June 27, 2024