



Marine Users Working Group

Presented By: Fraser Crossing Partners and
Transportation Investment Corporation

March 28, 2024

Welcome

- Review of February 29 Meeting Minutes
- Navigation Log
- Project Update
- River Survey Results
- Cantilever Construction – Overview and Staging
- Look-Ahead Schedule
- Roundtable Discussion
- Next Steps

Review of Meeting Minutes

February 29, 2024

Meeting Minutes – February 29, 2024

- FCCGP provided a Project update and overview of upcoming works
 - Crews continue to make progress on S1 (now on segment 30), gantry crane has been hoisted onto the lower crossbeam, and N1 columns are underway
 - Girder and materials offloading has begun on the North Bank and will continue for approximately three months – occasional deliveries by barge required
- FCCGP provided an update on the River Monitoring Program
 - Monthly updates to be provided on current bed elevations and will be done again before freshet – post-freshet will provide insight into final condition. Comparison between February 8 and January 4 survey revealed not much as changed
 - An area of sedimentation on the south side of the river has been identified – the post-freshet survey will provide more info
- FCCGP provided a look-ahead:
 - Girder offloading ongoing on the North Bank – deliveries made by barge over the next three months
 - Barge tie-up locations along the south shore at several upstream and downstream locations
 - FCCGP provided an overview of bridge deck construction activities above the navigable waterway and the CN swing span, expected to begin in April – may be interferences with navigational channels and vertical clearances as a result of the cantilever construction (more information will be provided in subsequent meetings)

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 and the Dynamic Beast, looking northwest



Photo 2: Pier S1 and the main nav channel, looking north

Project Update

Ongoing bridge deck construction with S1 gantry



Photo 3: Pier S1 tower and gantry



Photo 4: Pier S1 gantry close-up

Project Update

Ongoing bridge deck construction with S1 gantry



Photo 5: Lifting of bridge deck panel



Photo 6: Pier S1 gantry and ongoing bridge deck construction

Project Update

Pier N1 column construction



Photo 7: Pier N1 column construction, looking north

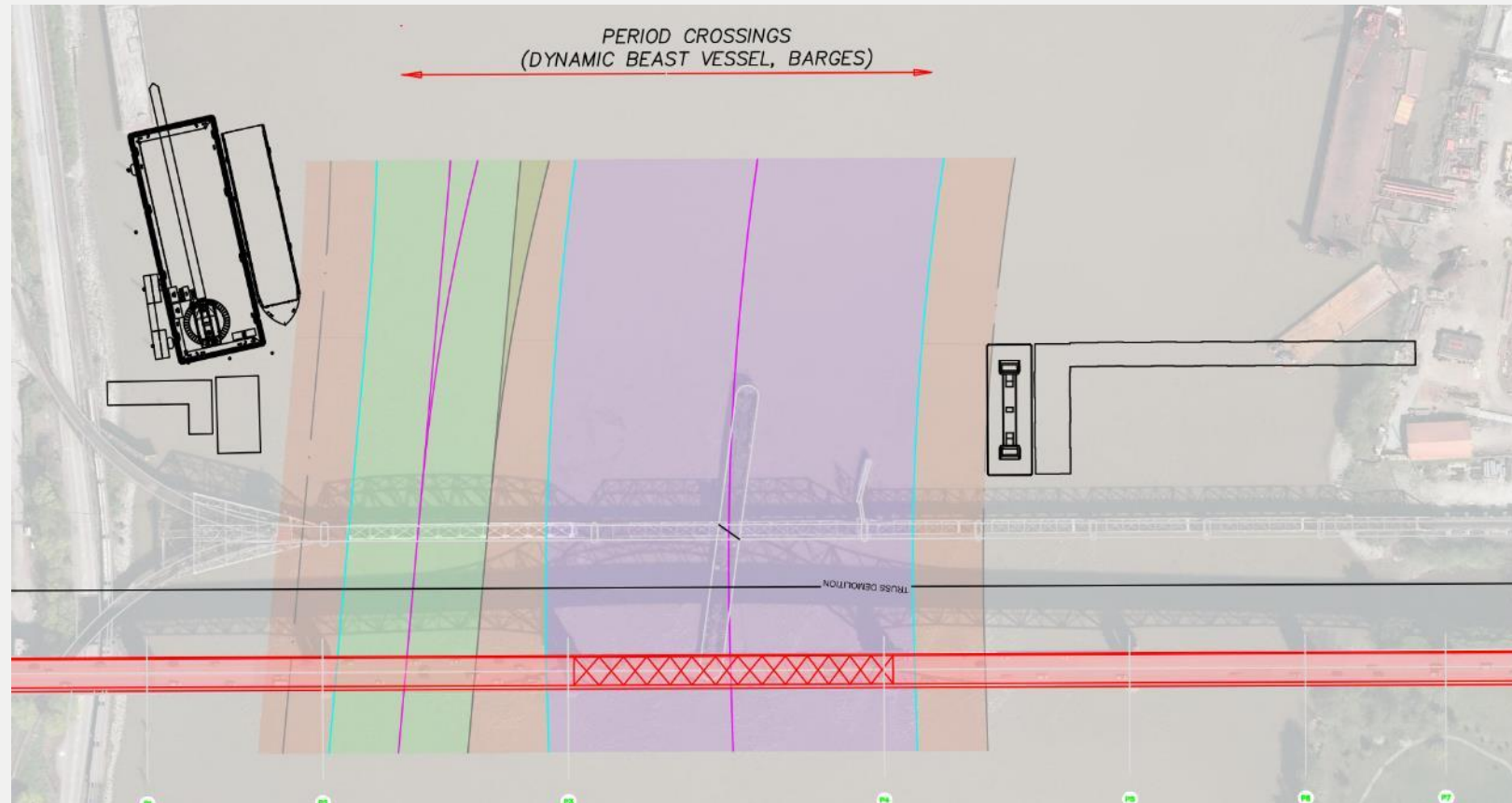


Photo 8: Pier N1 column construction, looking south

Project Update

Girder offload and installation for the North Approach and South Approach

- Offloading girders continue for approximately two months
- Barges coming to site periodically
- Occasional crossings across the main nav channels are required

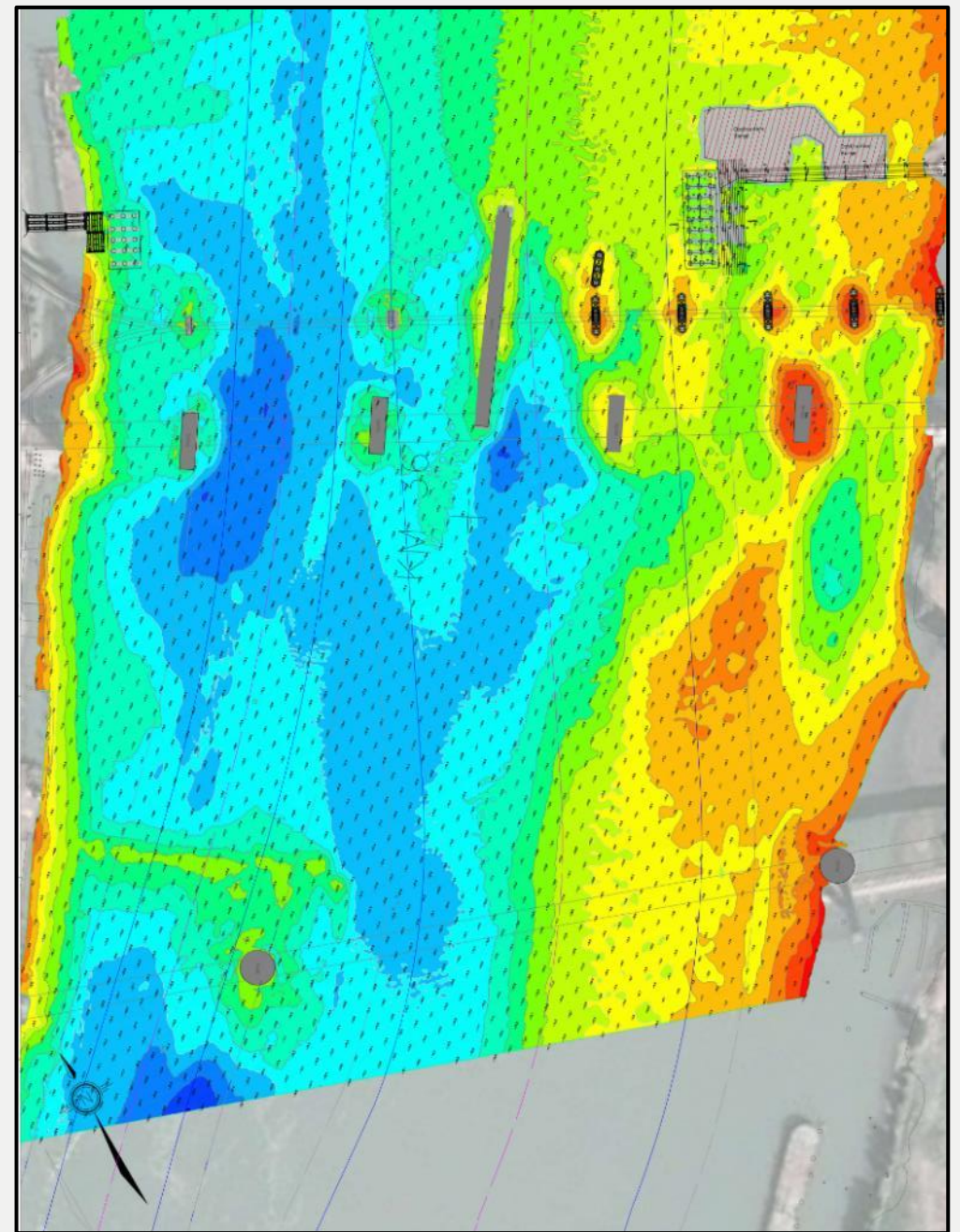


Update on River Monitoring Program

March Bathymetric Survey Results

Bathymetry Monitoring Survey — Mar 4, 2024

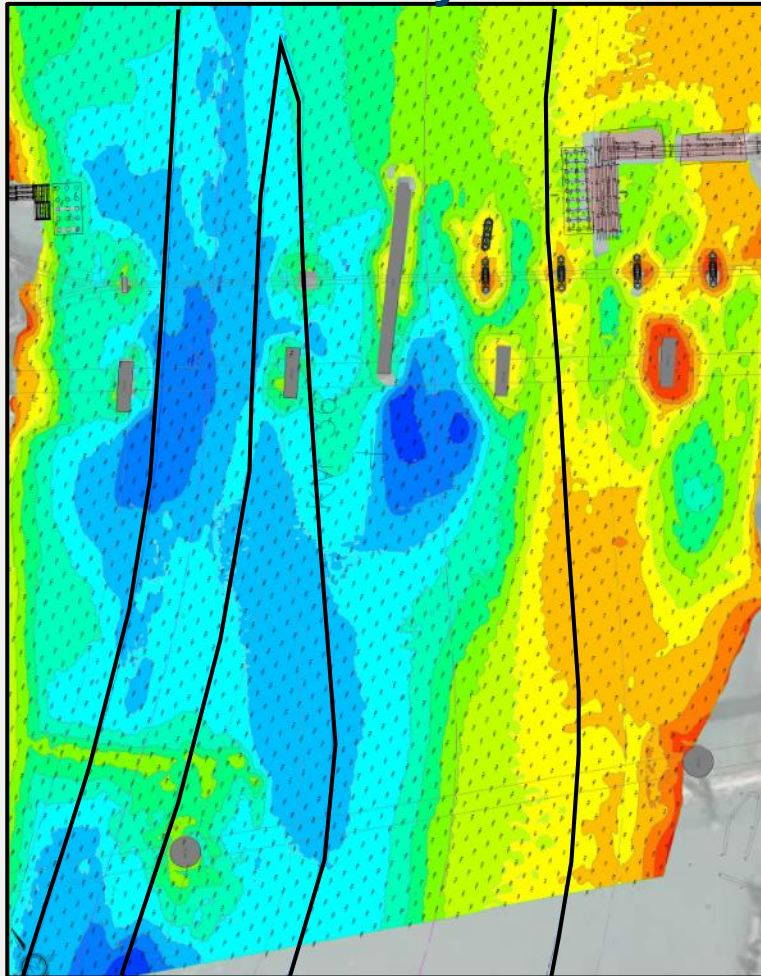
Elevations Table			
Number	Maximum Elevation	Minimum Elevation	Color
14	0.00	-2.00	Red
13	-2.00	-4.00	Orange
12	-4.00	-6.00	Yellow
11	-6.00	-8.00	Light Green
10	-8.00	-10.00	Green
9	-10.00	-12.00	Light Blue
8	-12.00	-14.00	Blue
7	-14.00	-16.00	Dark Blue
6	-16.00	-18.00	Very Dark Blue
5	-18.00	-20.00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



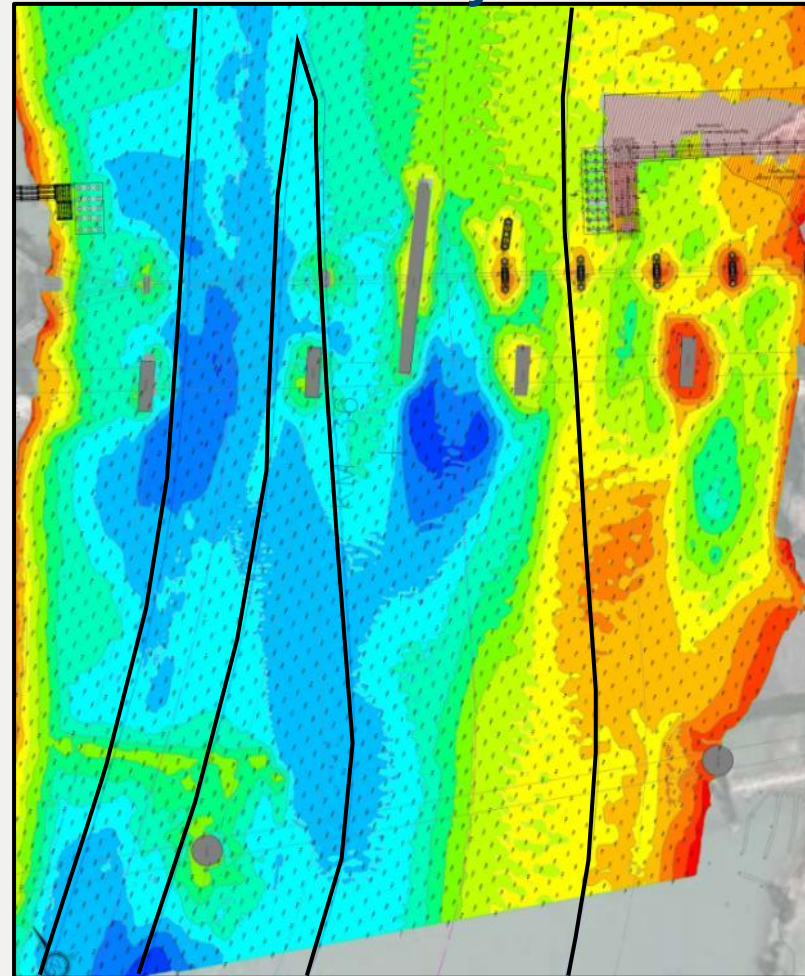
Bathymetry Results:

Comparison from Jan – Mar 2024

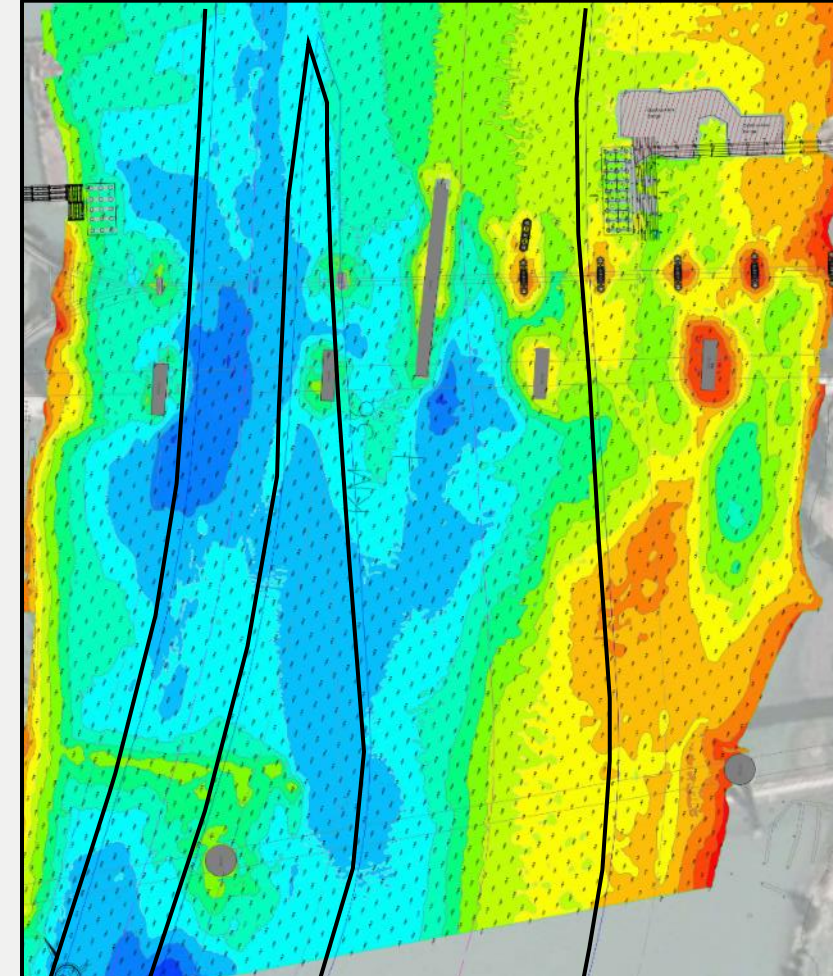
January 4



February 8



March 4



Bathymetric Results

- Monthly bathymetric survey results will be shared at next IMUWG and MUWG meeting
- Review of bathymetric results by cross sections (A – F) to be shared post-freshet 2024

Cantilever Construction

Overview and Sequencing

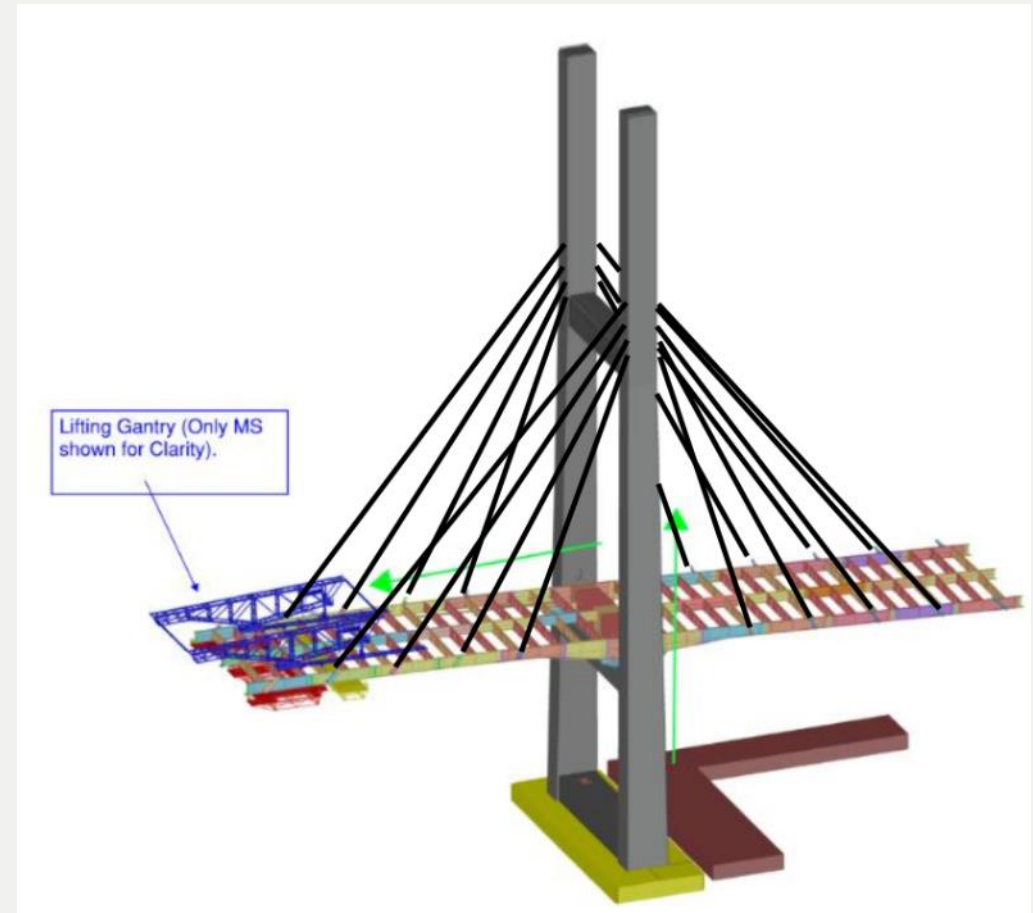
Construction Staging During Cantilever Construction: Navigation Protection Matrix

During Cantilever except for 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

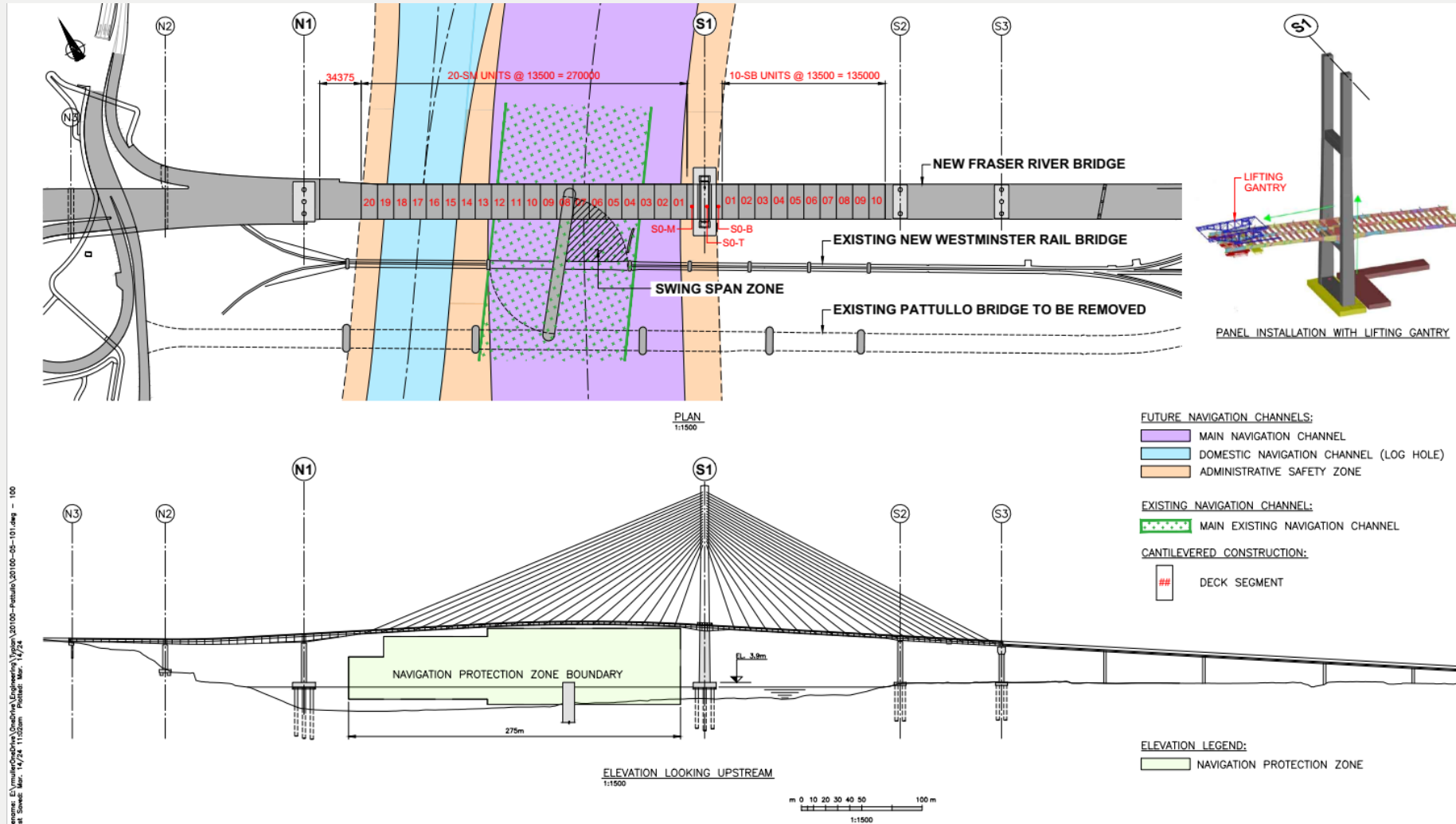
- The introduction of the lifting gantry significantly reduces potential "interferences" to navigation during cantilever construction
- The interferences to navigation occur during construction activities needed to: "secure beams and panels" associated with installation of each segment



Cantilever Construction Overview

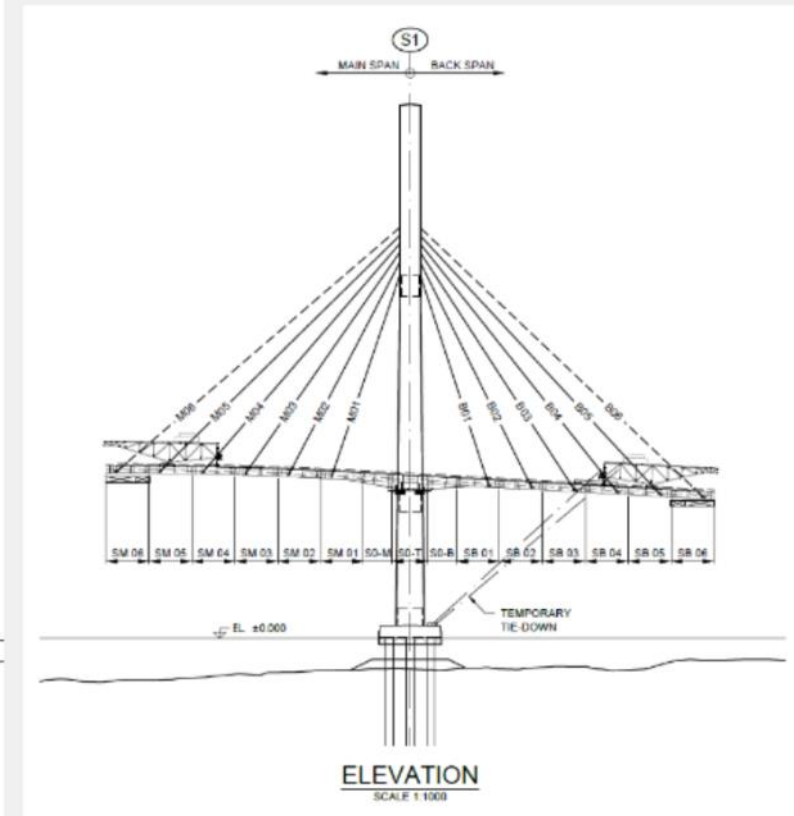
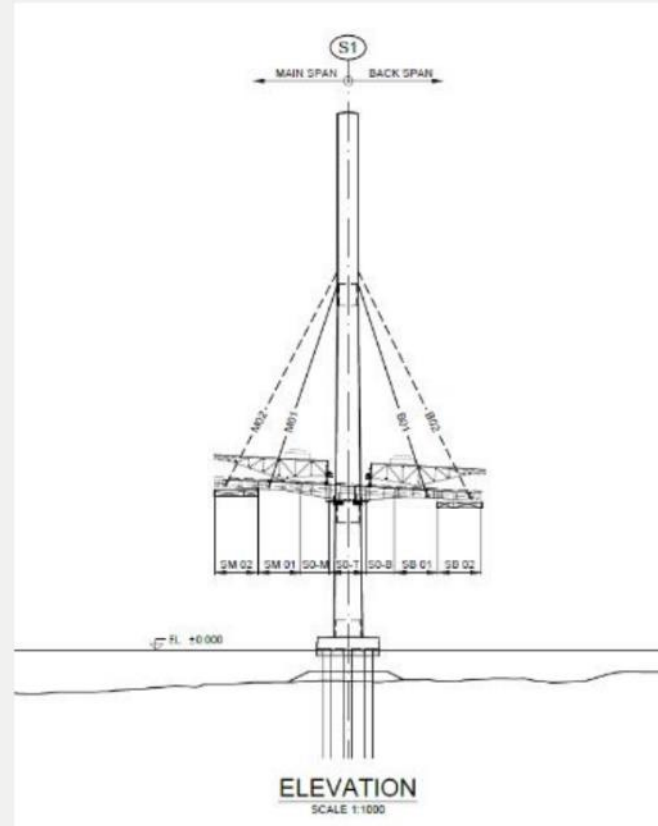
- FCCGP undertook extensive planning to limit potential interferences to navigation and rail operations
- Cantilever construction requires very short and intermittent periods that potentially "interfere" with navigation
- TSOP's being used further reduce such restrictions

Cantilever Construction Overview

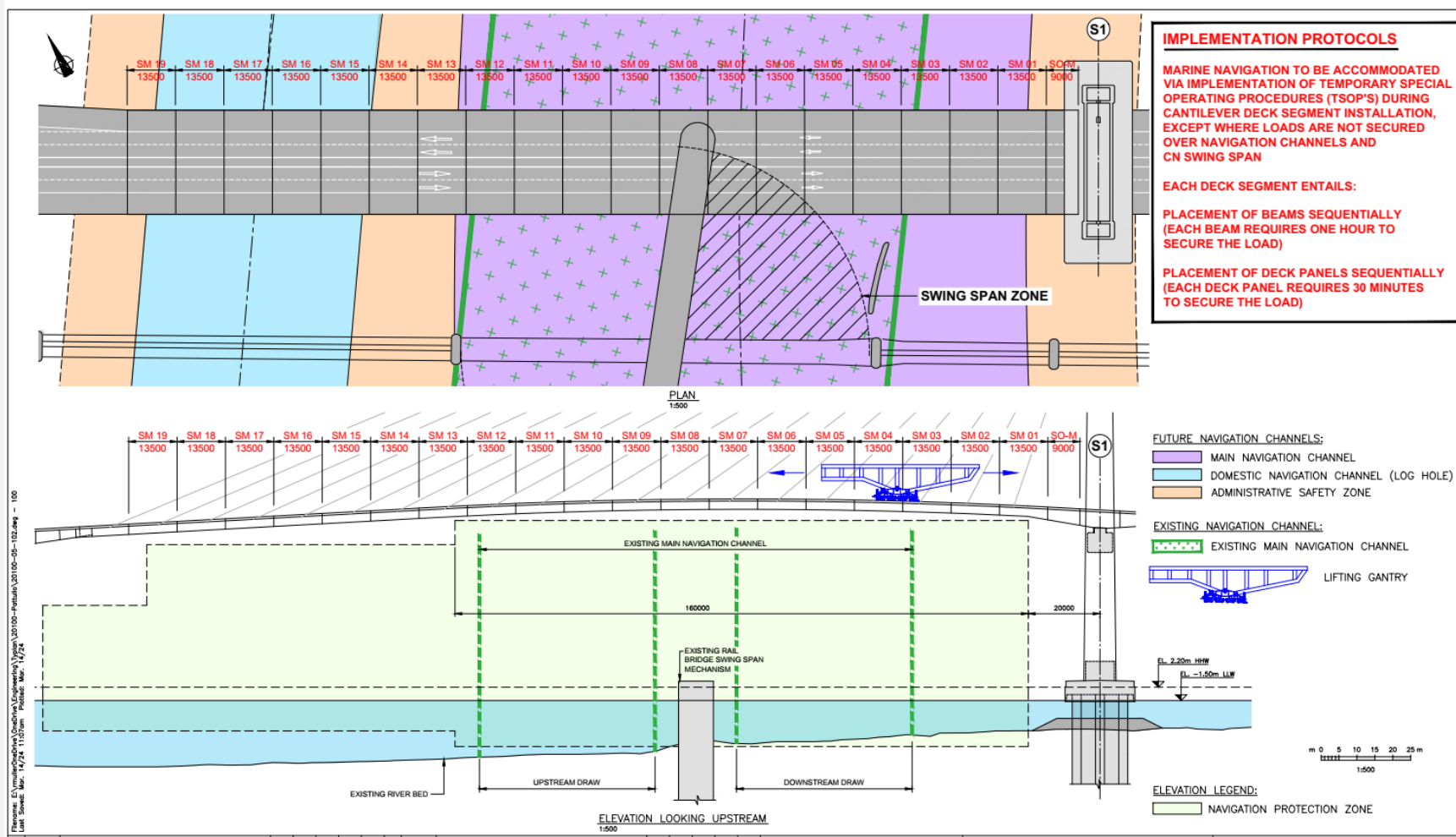


Cantilever Construction Overview

- 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 Navigation Protection Zone

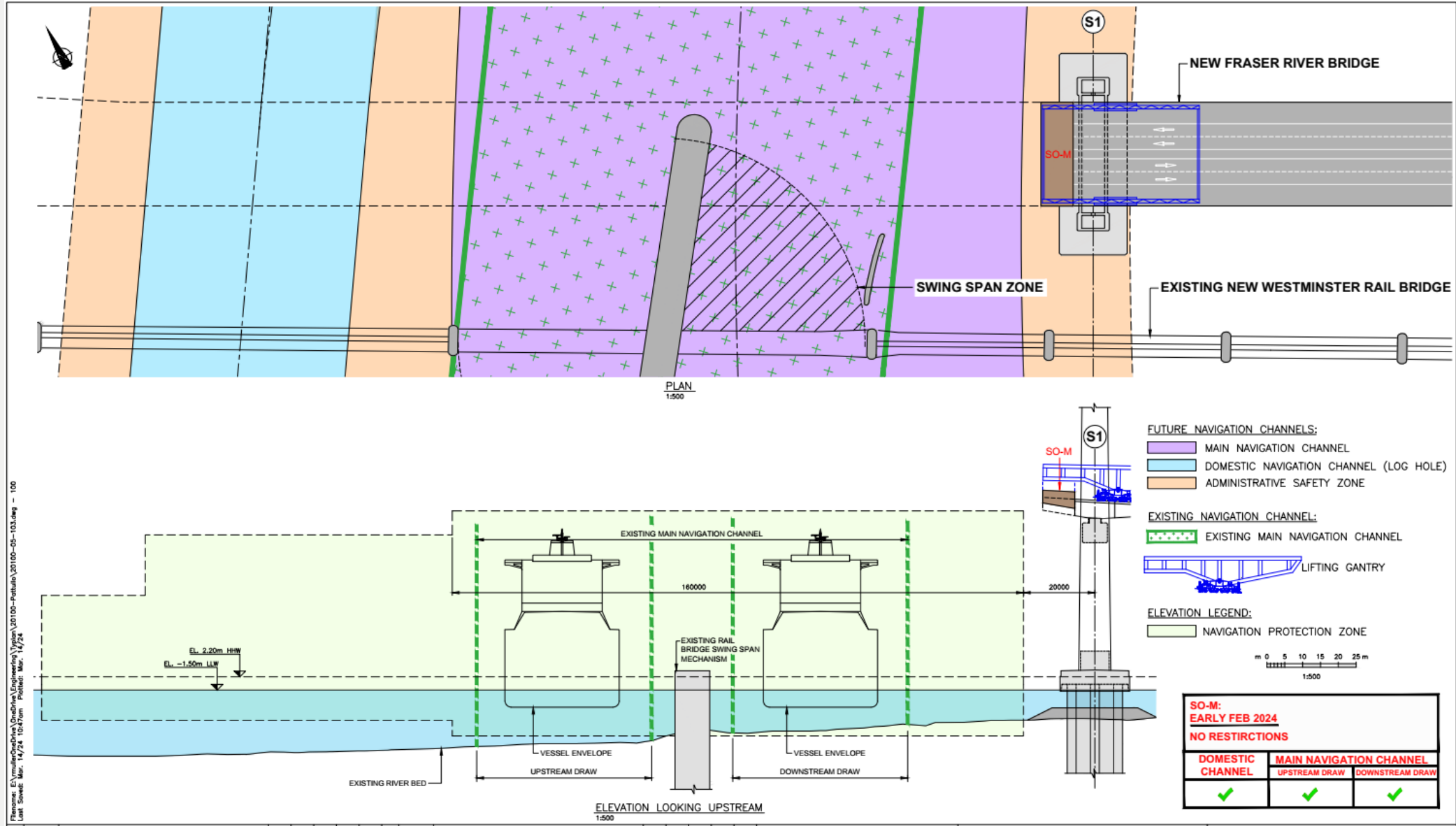


Temporary Special Operating Procedures

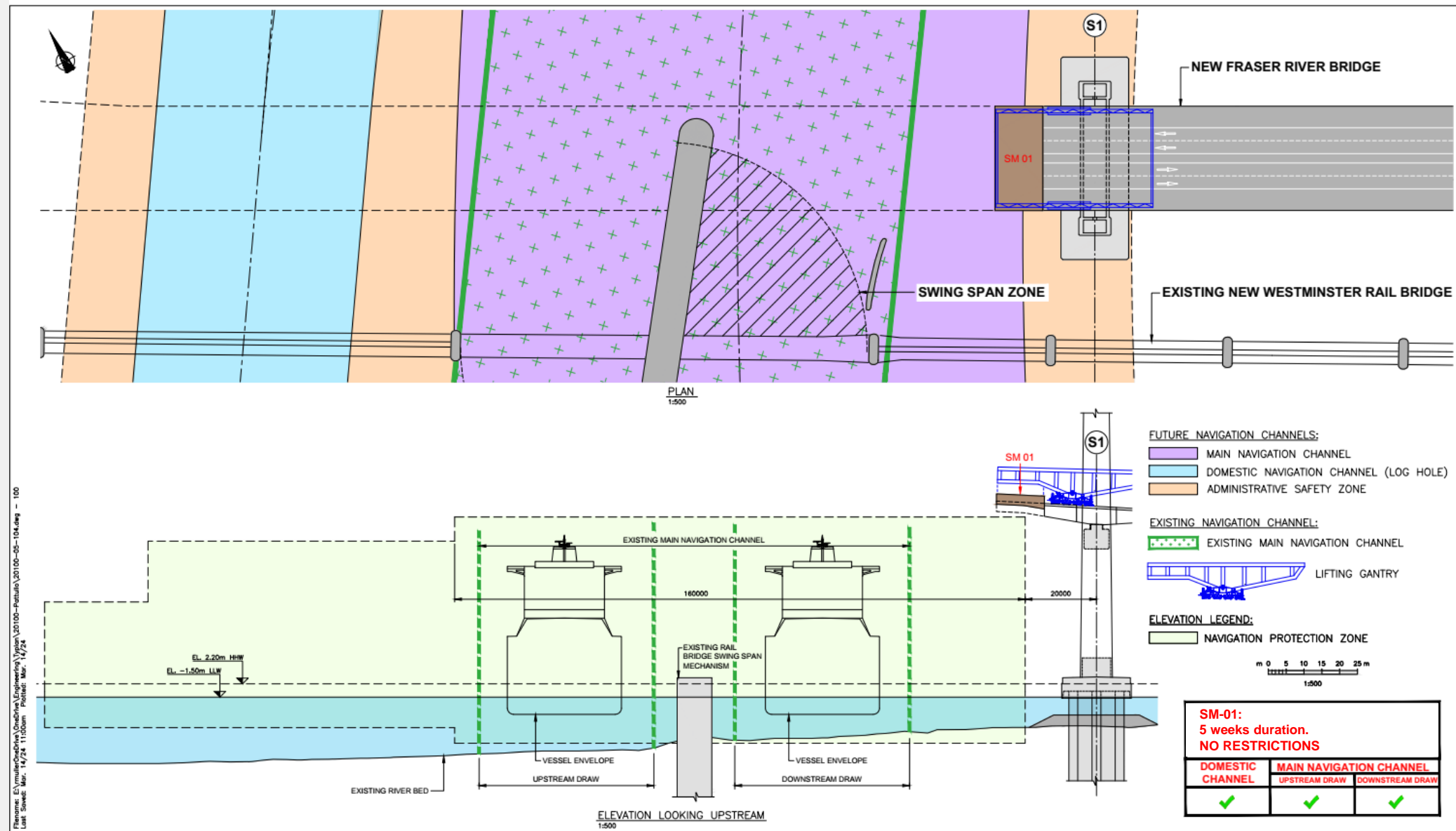
Temporary Special Operating Procedures (TSOP's)	Notice (minutes)	Communications	Communication Sequencing and VHF Channels
Pre-Call	60	Master Call Bridge Tender	Refer to Communications Flow Chart <ul style="list-style-type: none">• VHF Channel 74 General Information• VHF Working Channel 69 (Marine Contractor Marine Flagger)• VHF Channel 16 Emergency Channel
ETA Call	20	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			

Segments Not Creating an Interference to Navigation

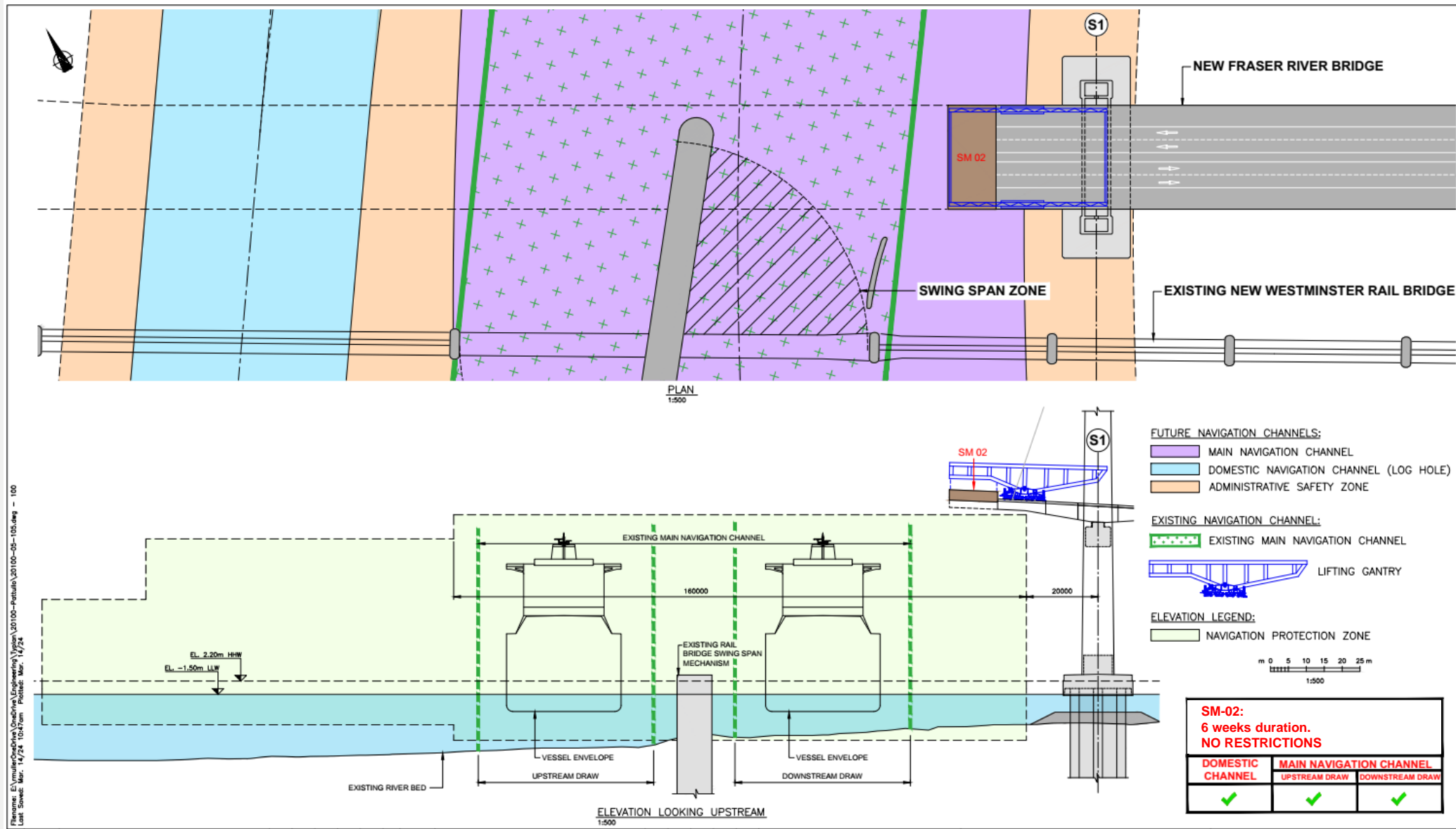
Segment S0-M



Segment SM-01



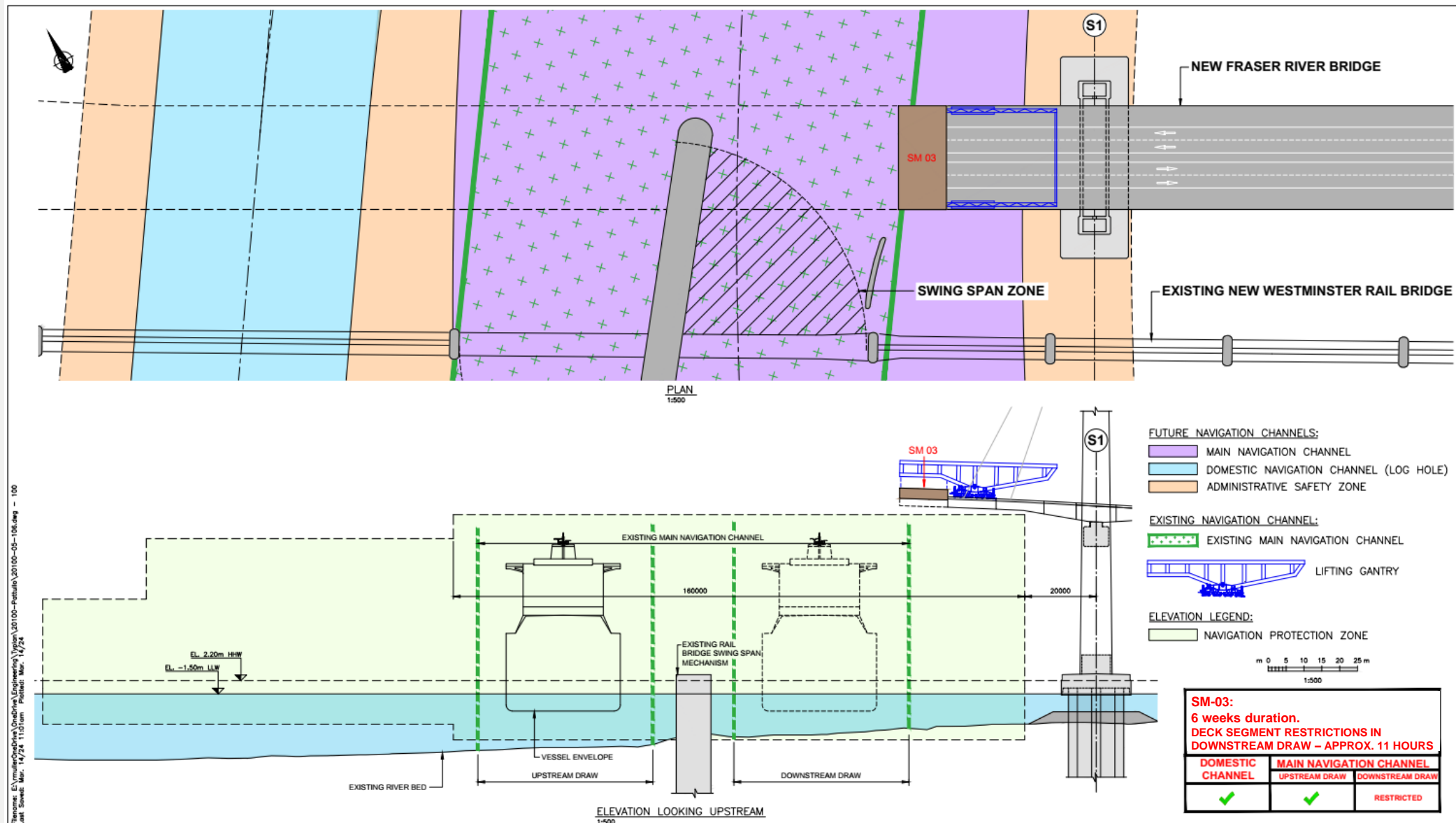
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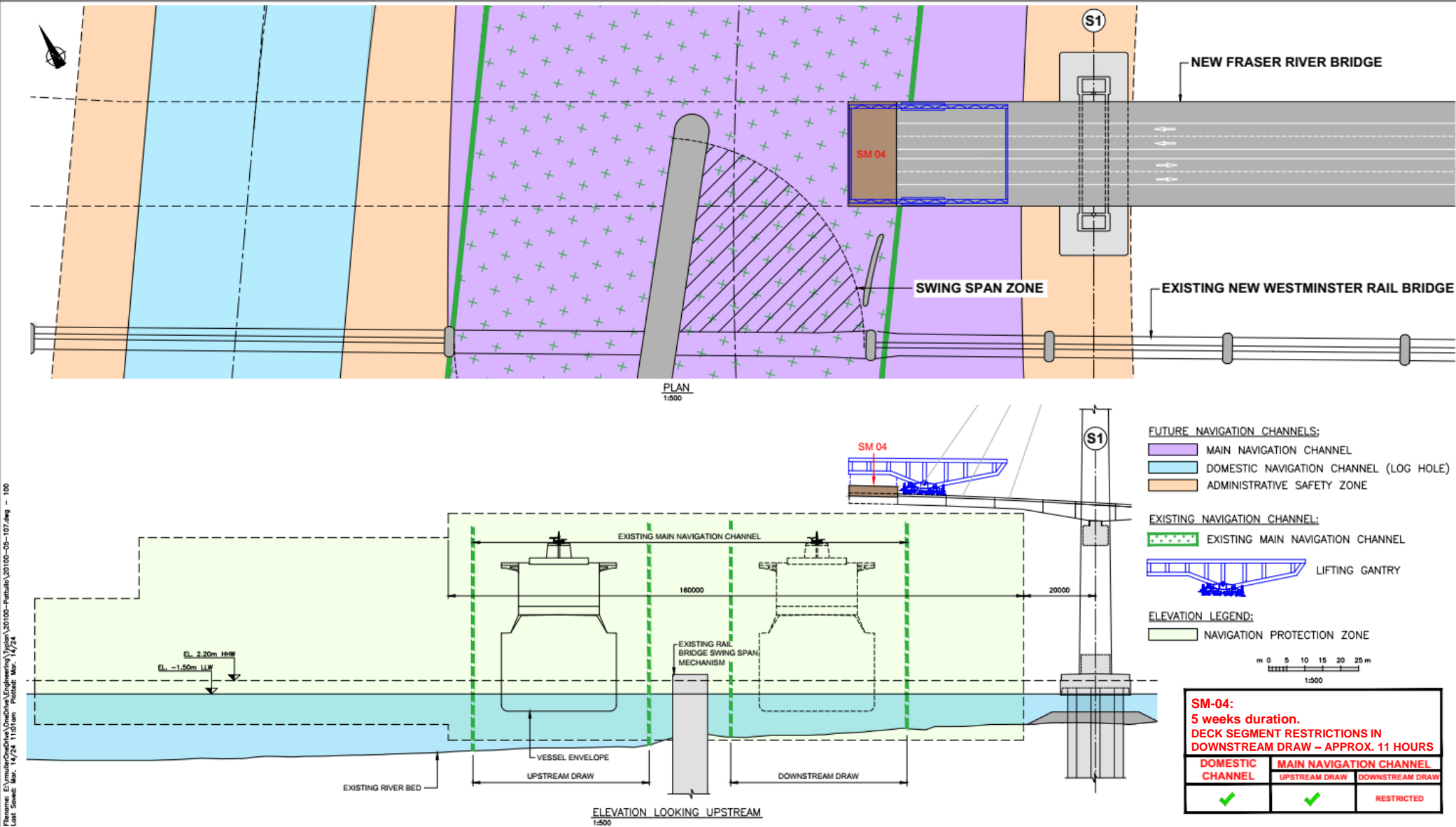
Segments Over the Downstream Main Navigation Channel

CN Rail Operations Require NWRB to be closed during the period in which the beams and panels are being secured

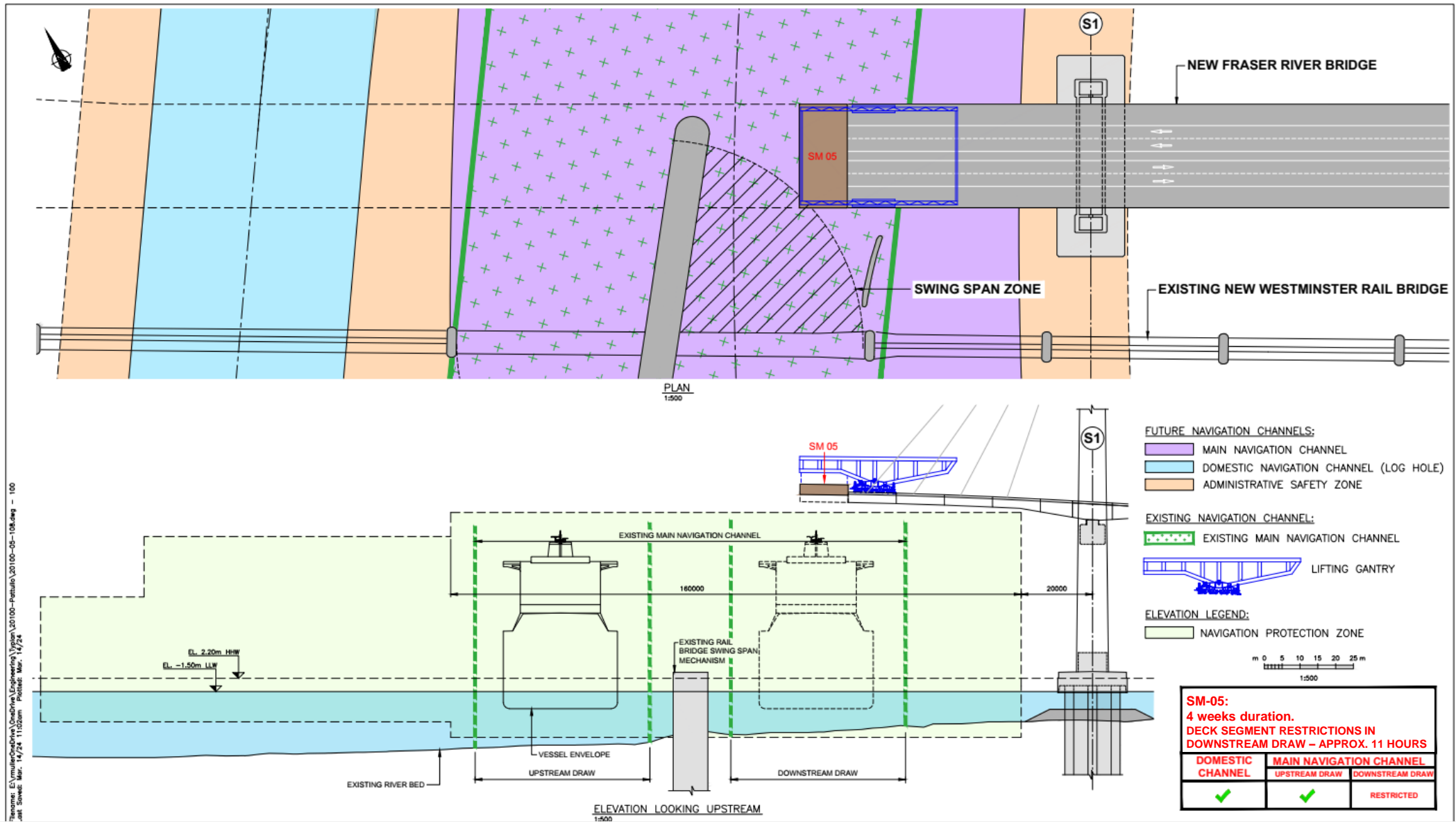
Segment SM-03



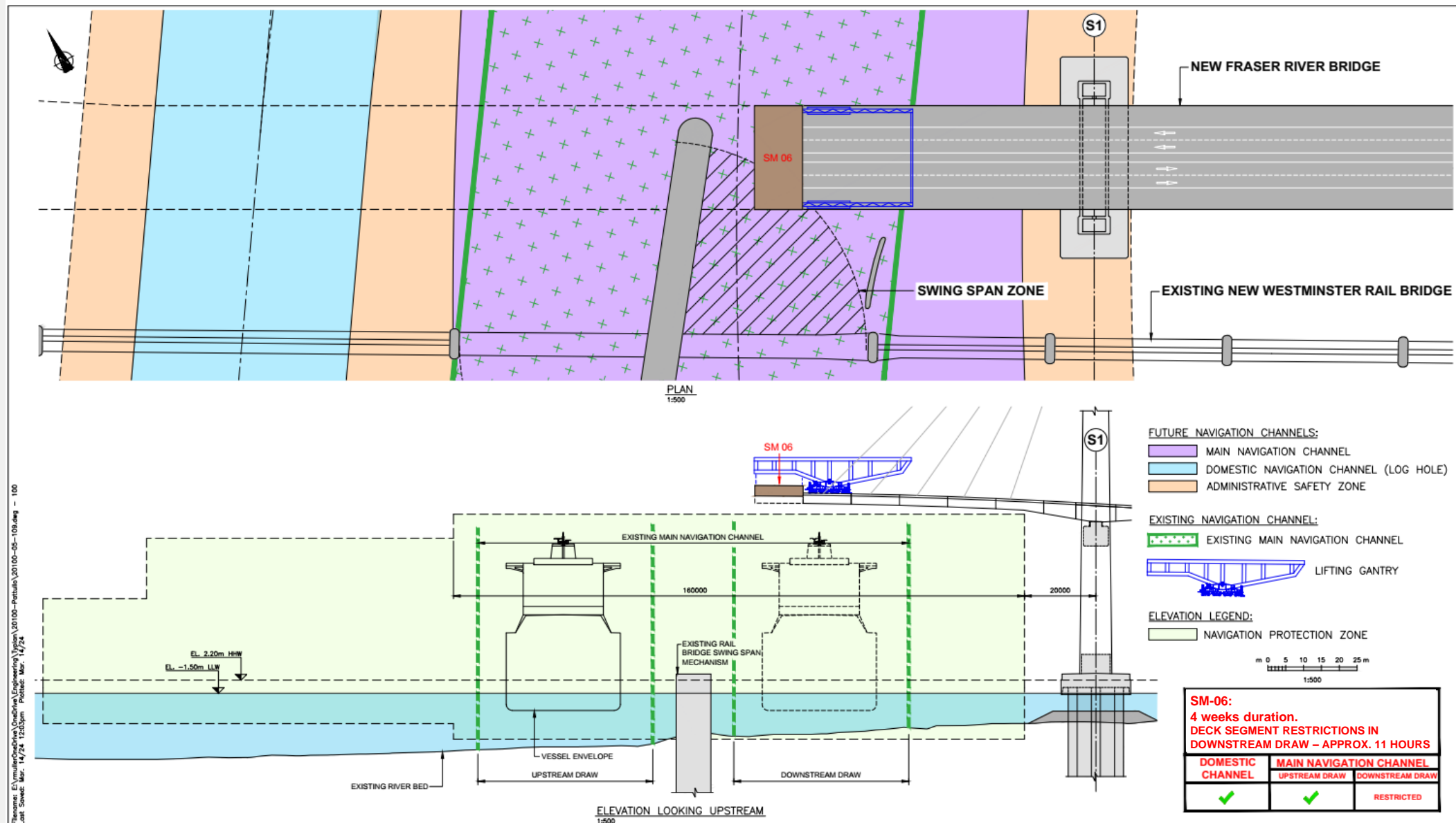
Segment SM-04



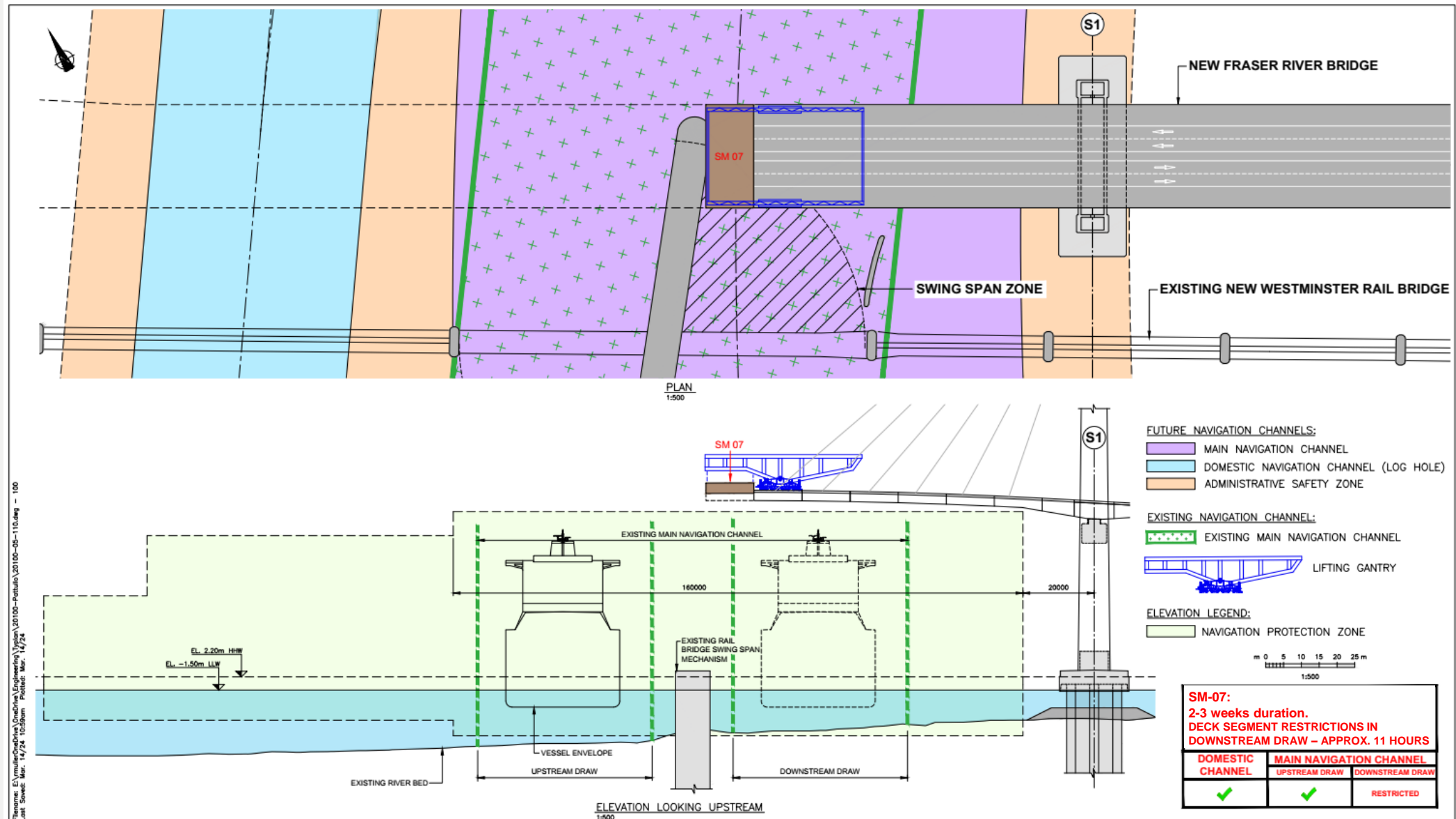
Segment SM-05



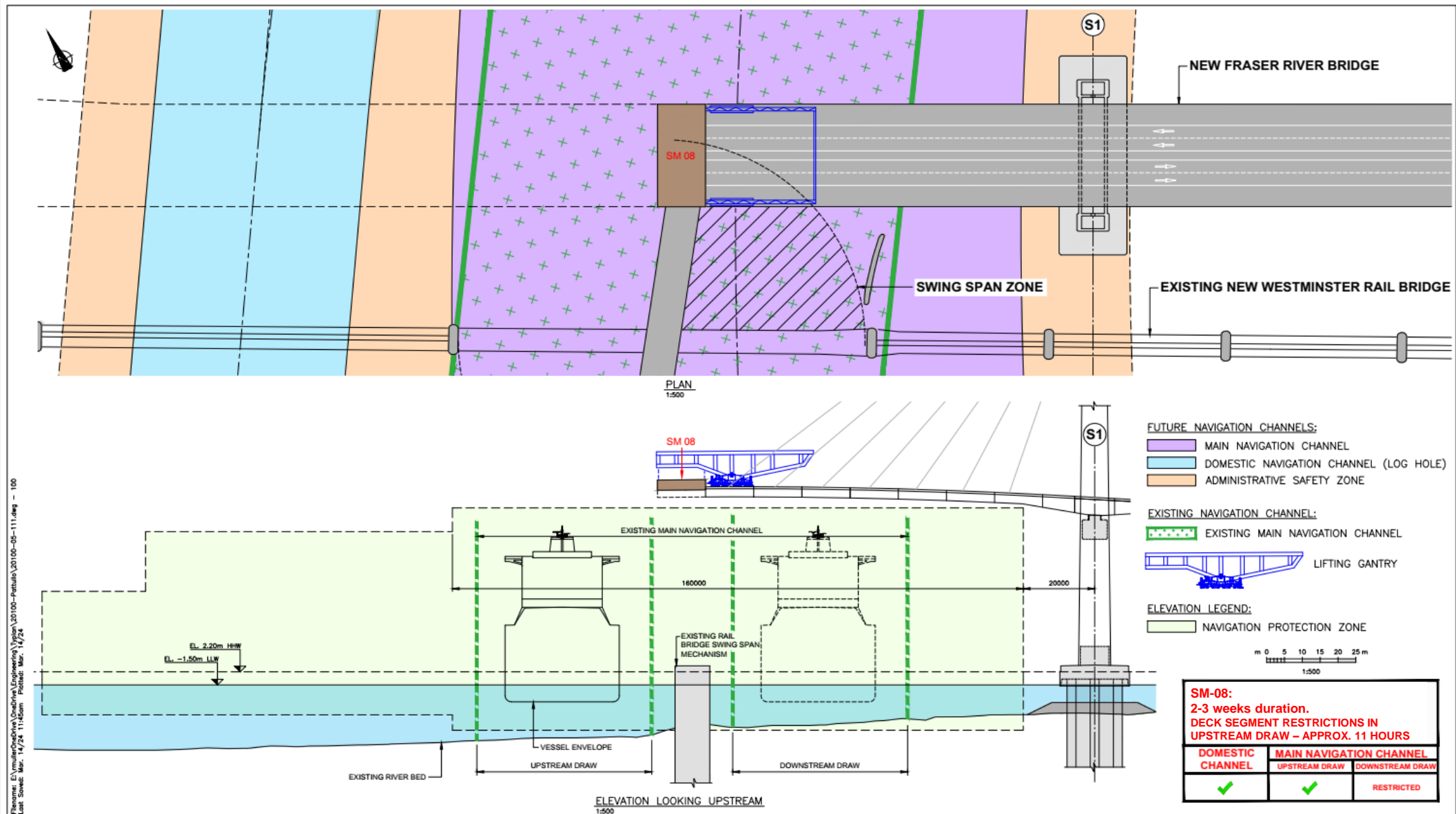
Segment SM-06



Segment SM-07

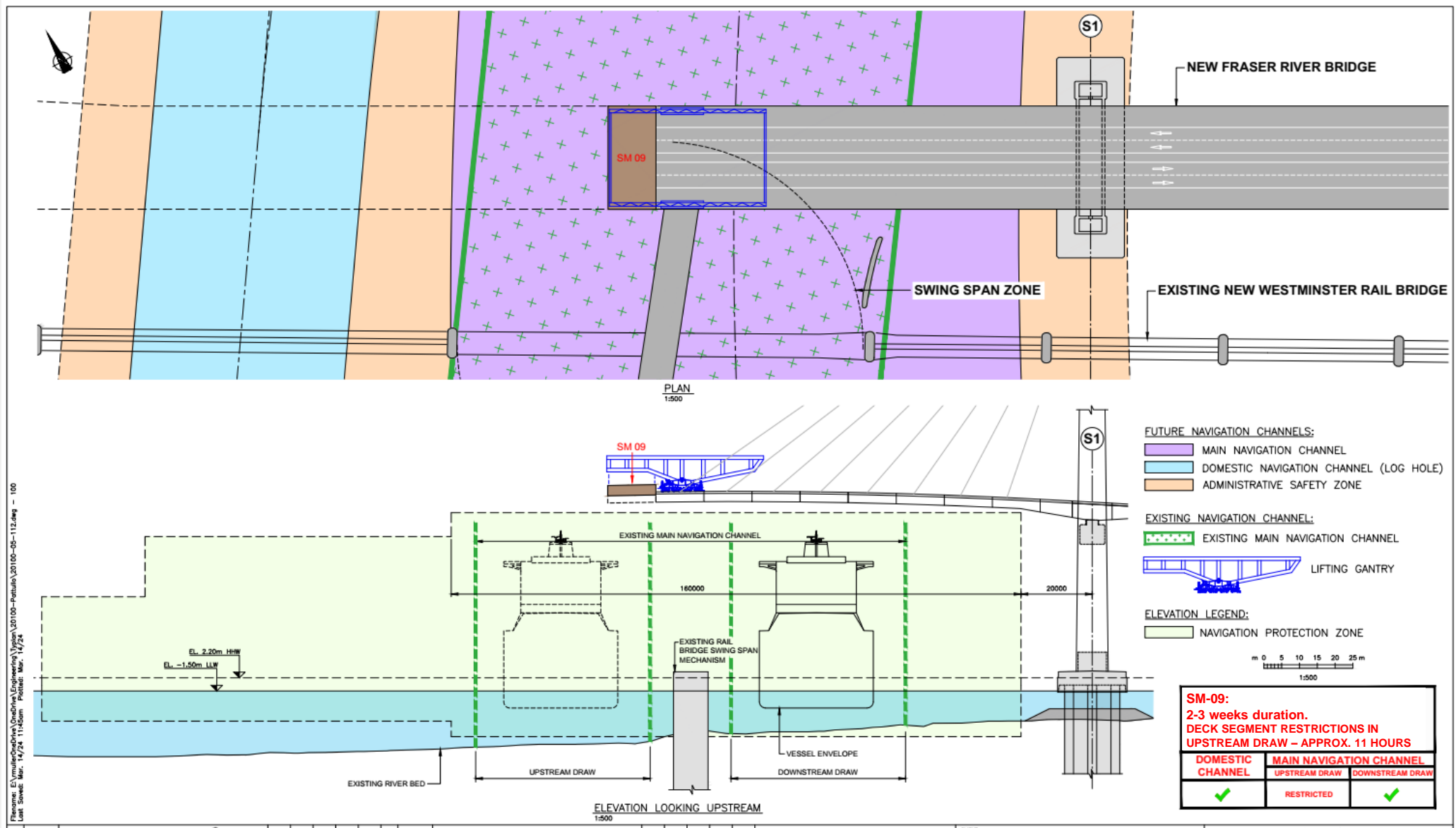


Segment SM-08

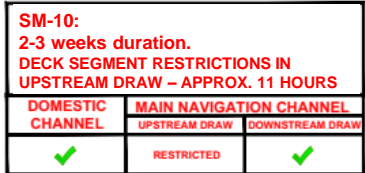


Segments over the Upstream Main Navigation Channel

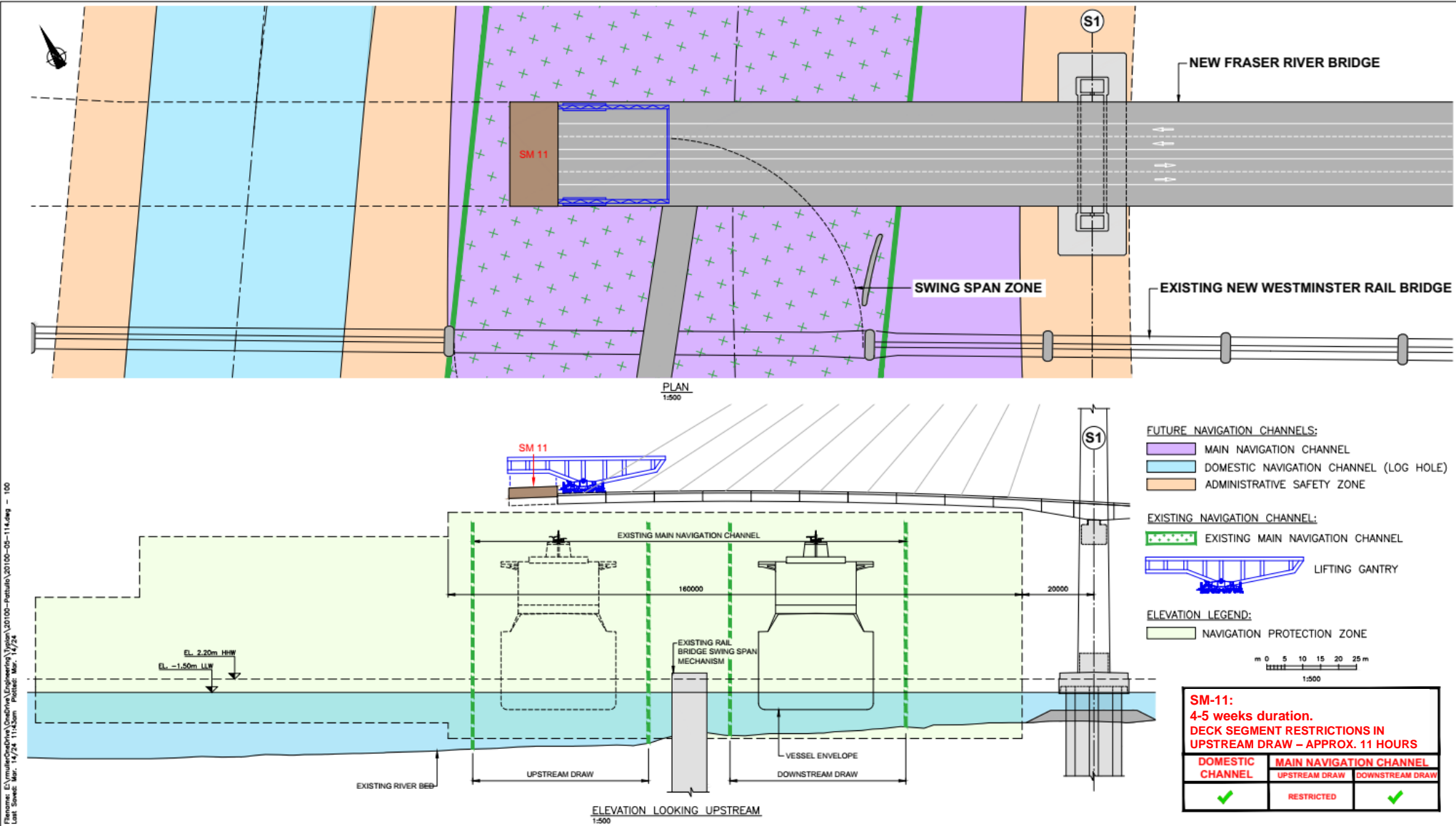
Segment SM-09



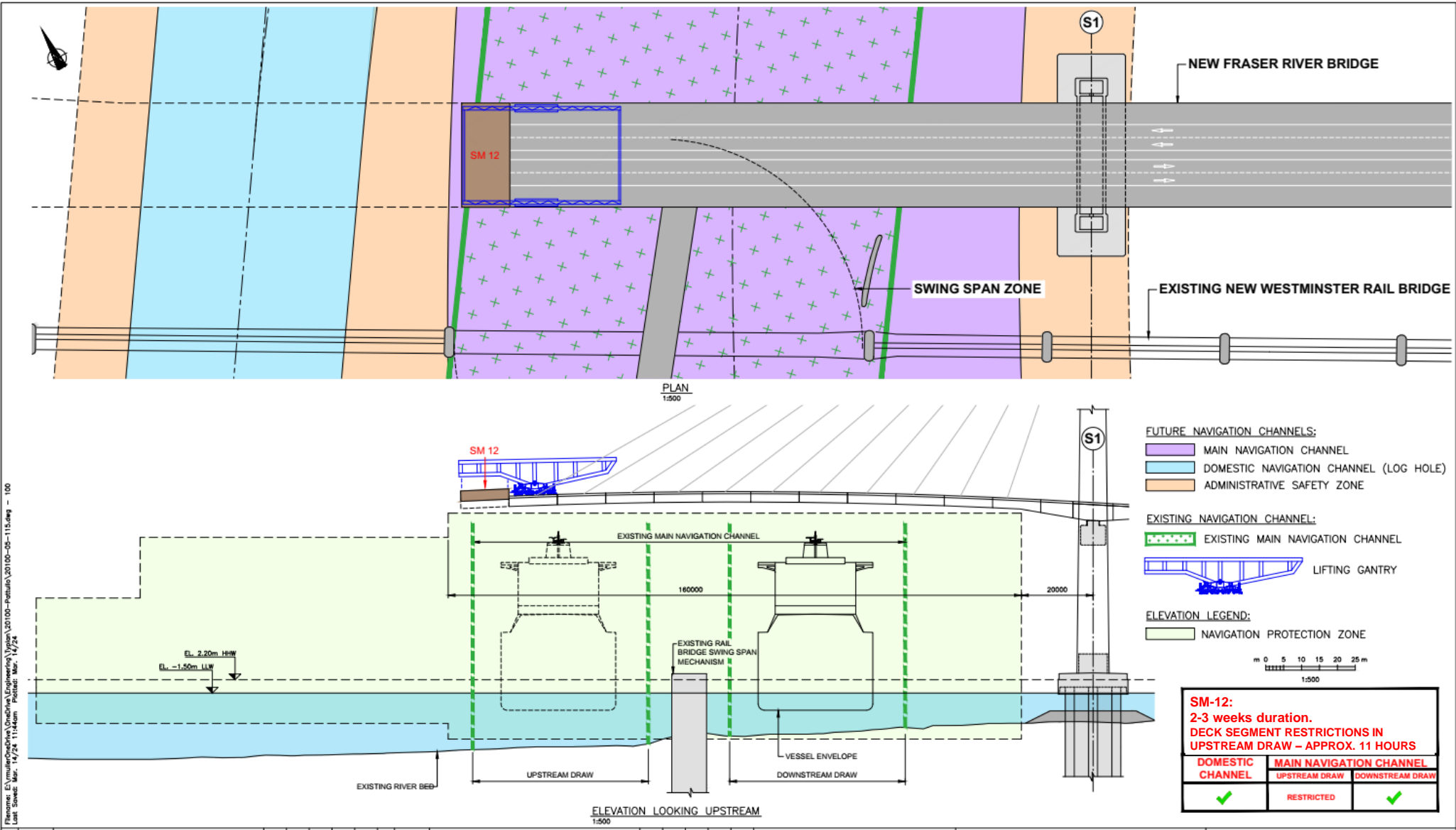
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Segment SM-11

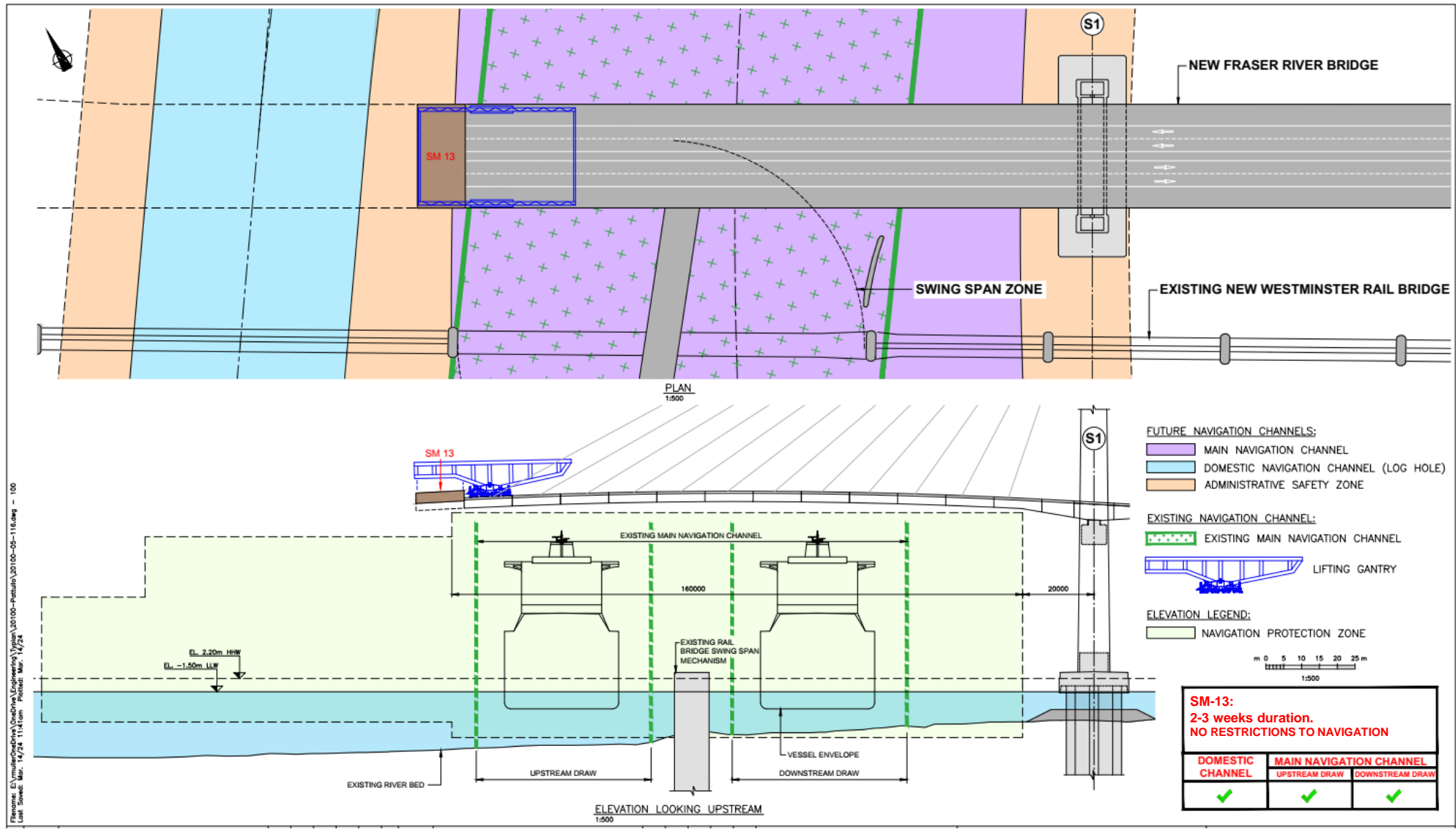


Segment SM-12

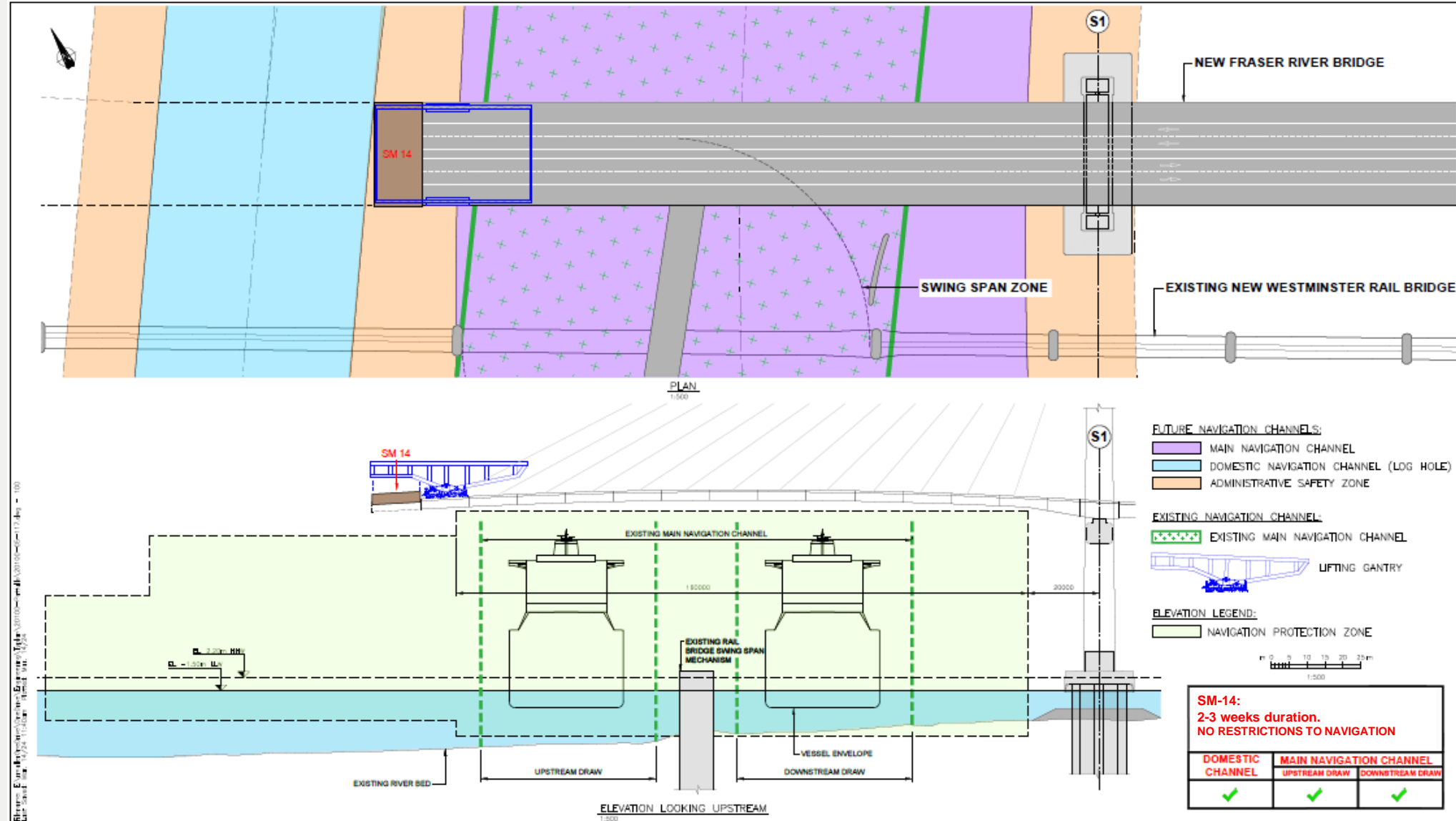


Segments Creating No Interference to Navigation

Segment SM-13

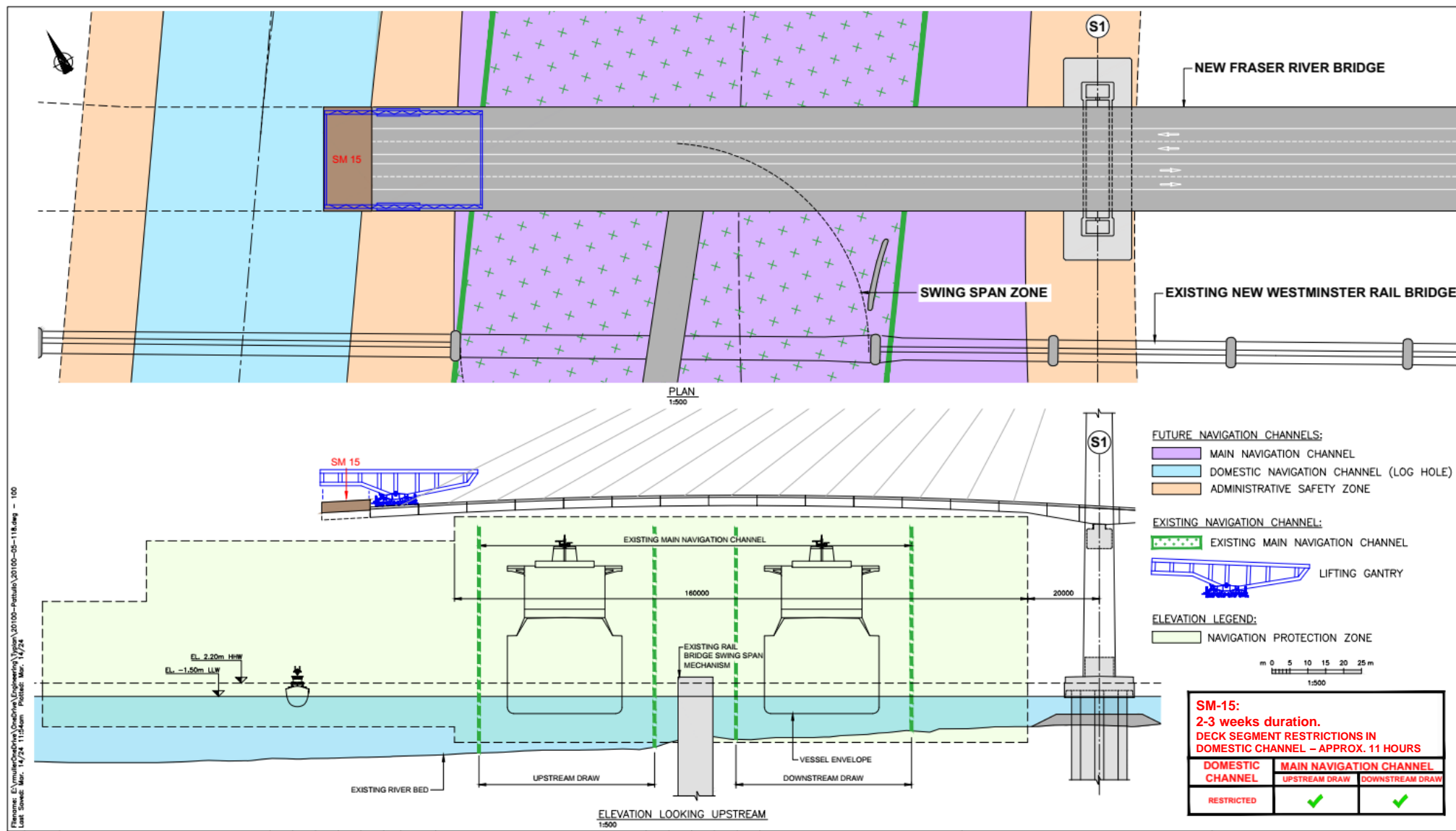


Segment SM-14

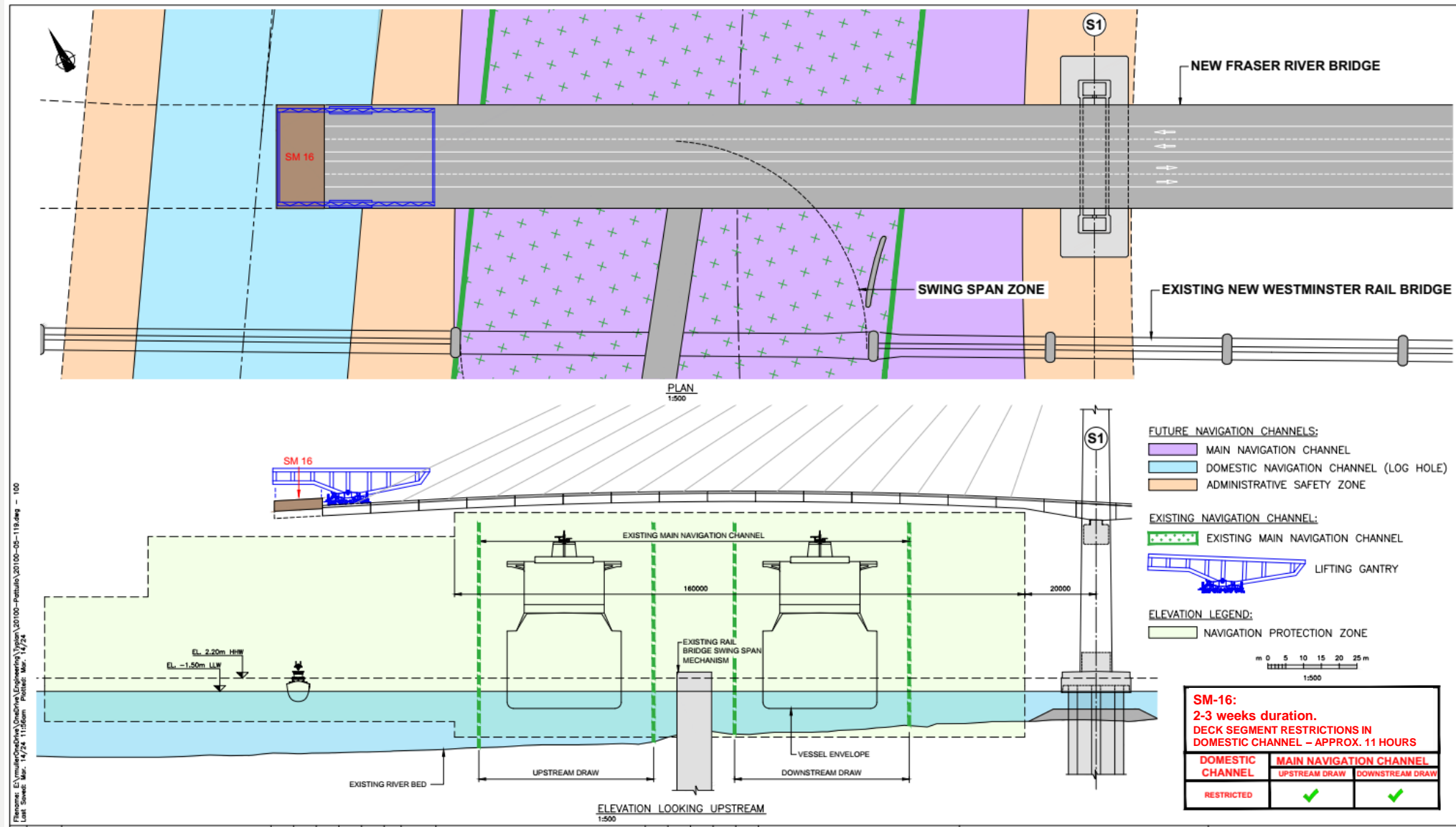


Segments over the Domestic Navigation Channel

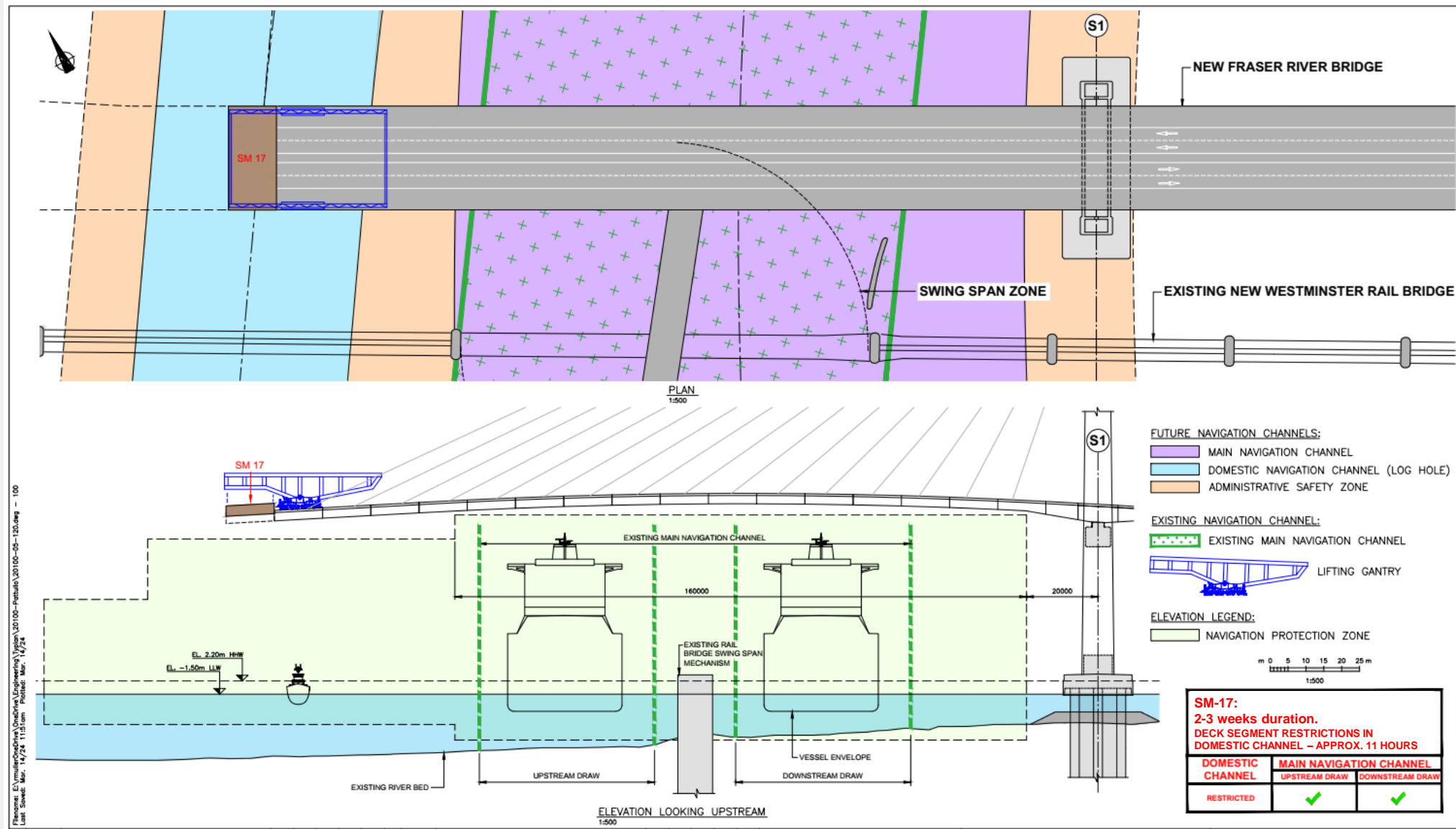
Segment SM-15



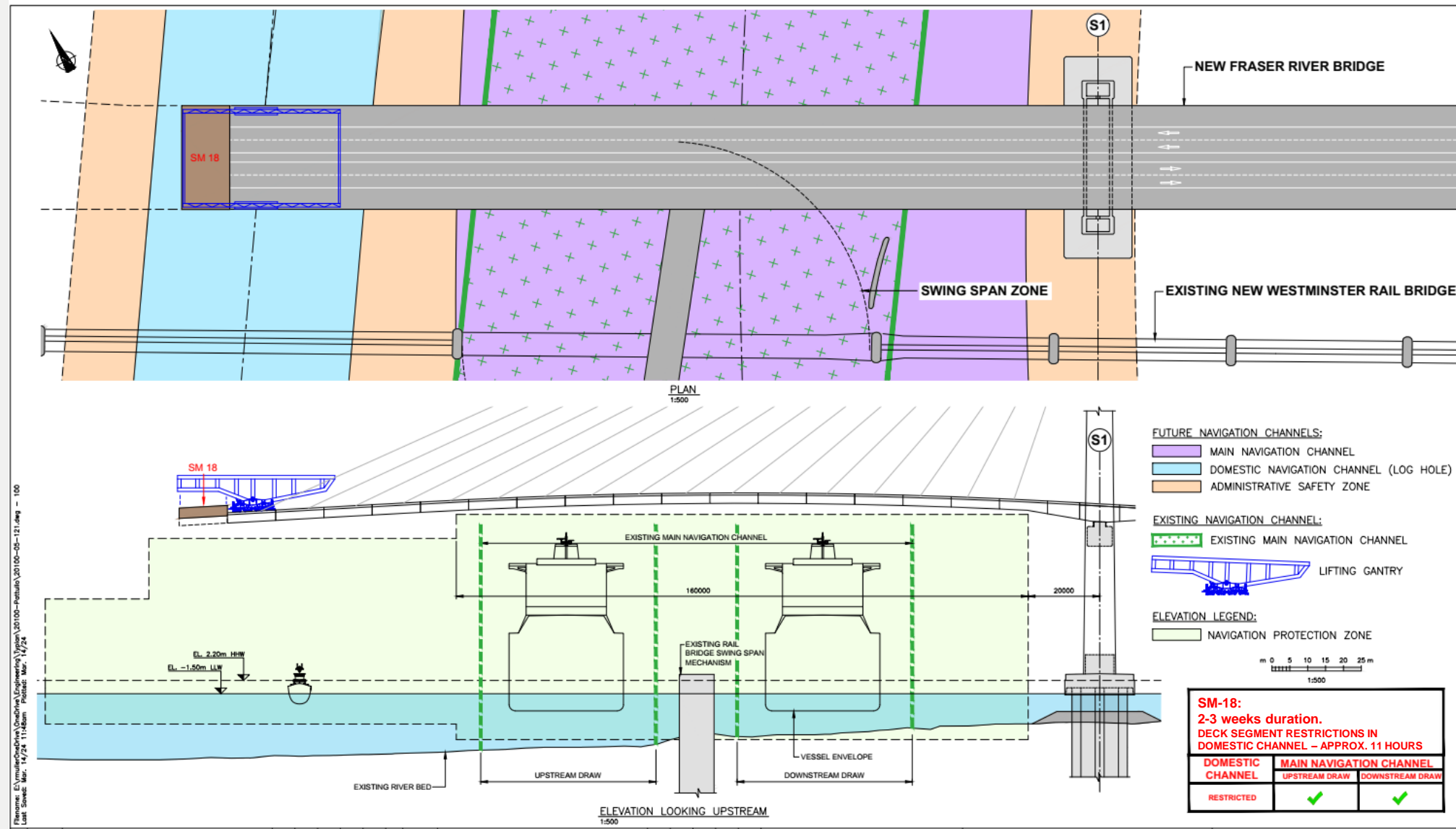
Segment SM-16



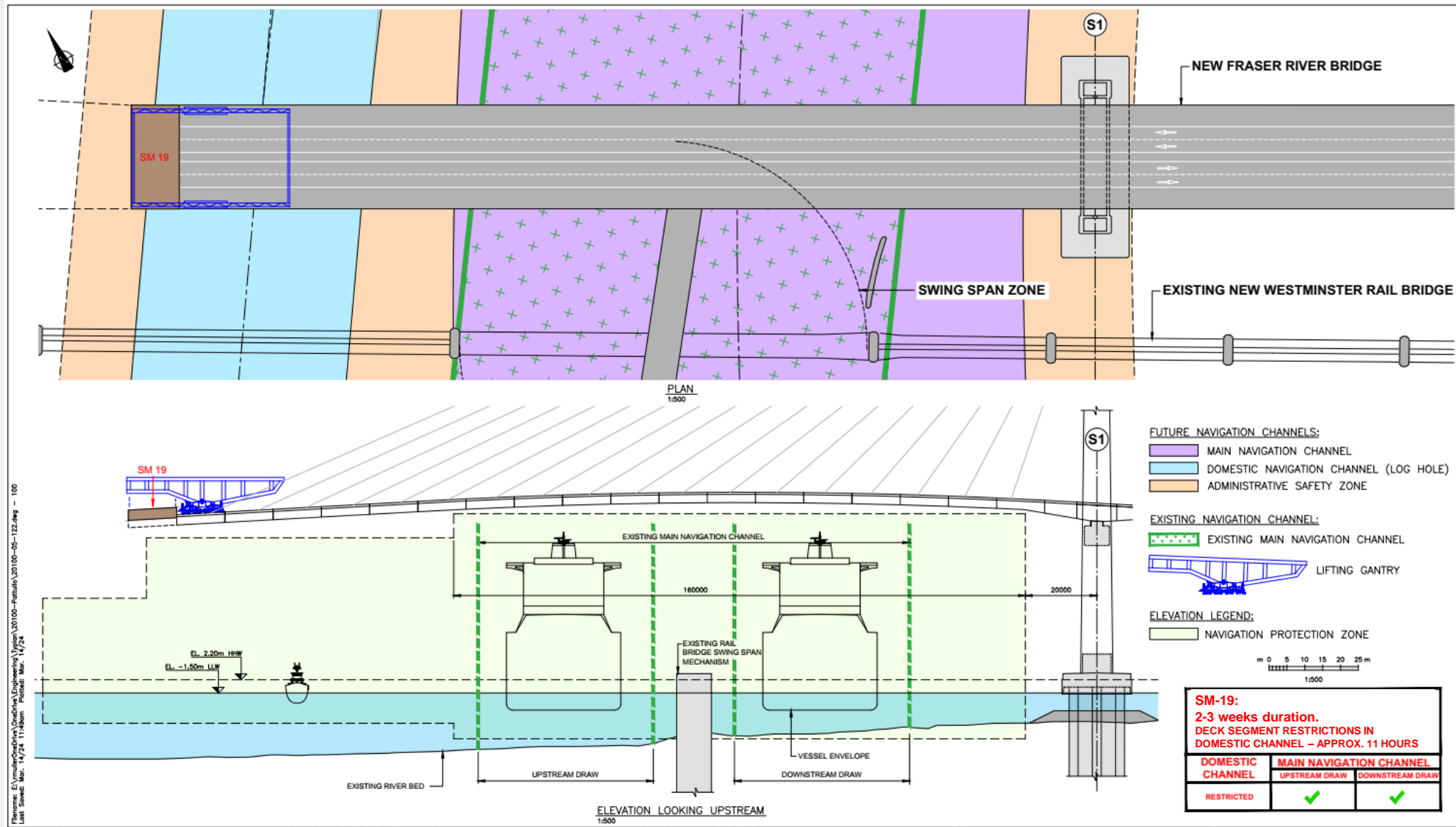
Segment SM-17



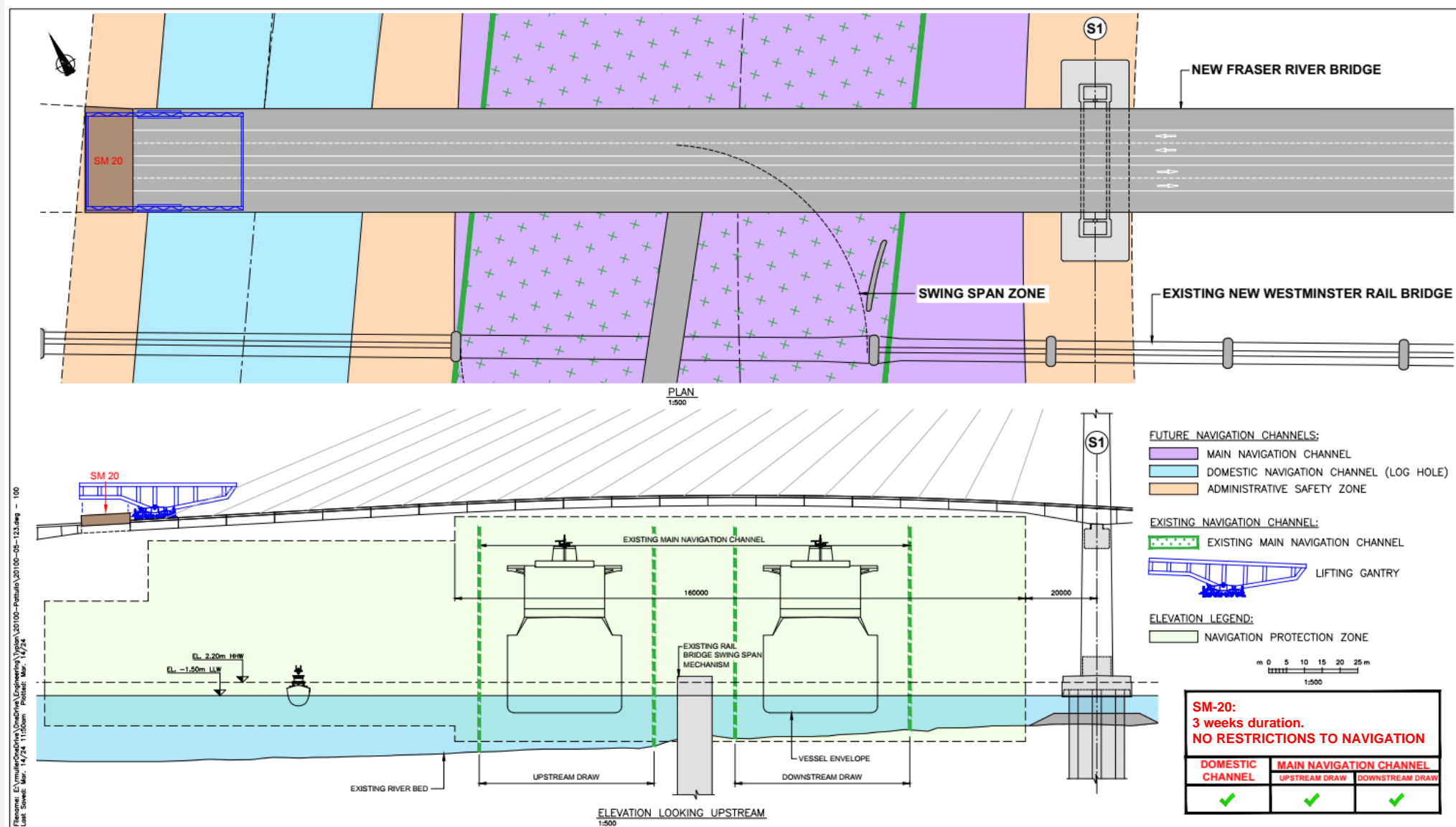
Segment SM-18



Segment SM-19



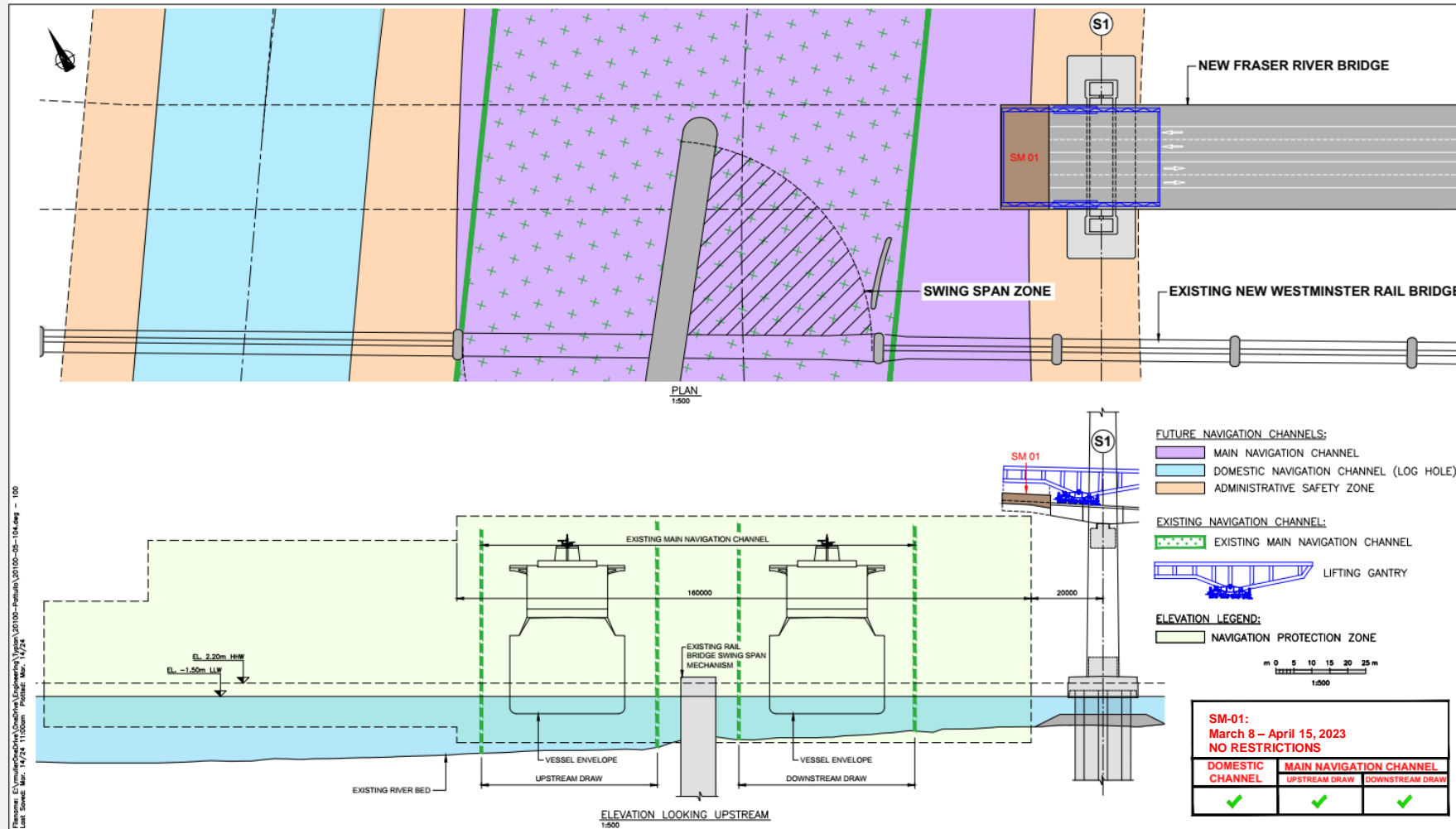
Segment SM-20



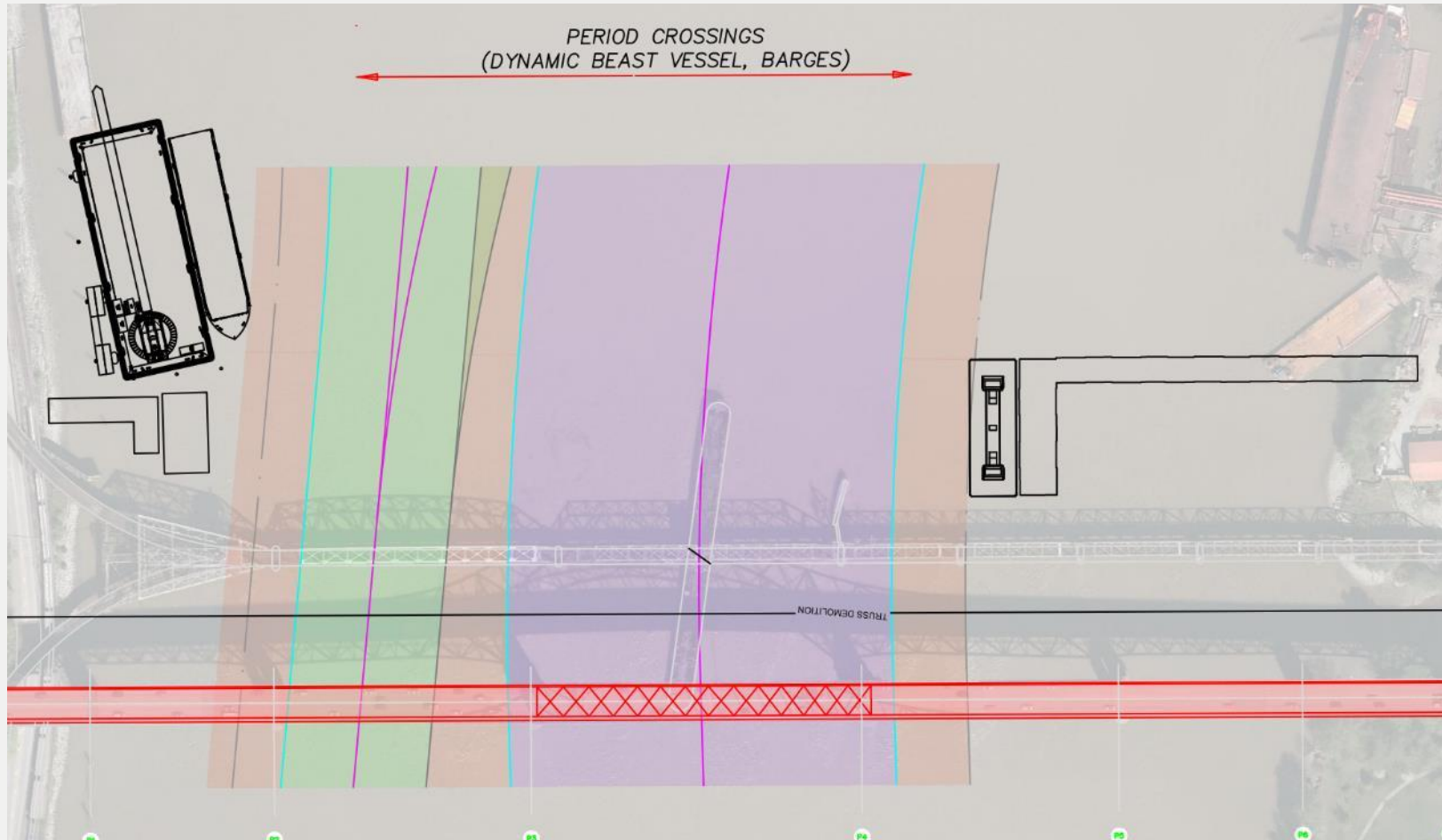
4-Week Look-Ahead / Construction Staging

Bridge deck construction – SM-01

- Ongoing between March 8 – April 15, 2024



Girder offloading for North Approach and South Approach



- Occasional girder deliveries made by barge continuing for the next two months
- Occasional crossings across the main nav channels are required

Next Steps

Ongoing NAVWARNs to be provided

Next Marine Users Working Group:

- May 23, 2024