



**March 2023  
Monthly Project Report  
I-64 HAMPTON ROADS  
BRIDGE-TUNNEL  
EXPANSION**

**Report No. 48**  
Project No. 0064-M06-032



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**Issue Date: April 7, 2023**

Prepared by:

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## 1. Executive Summary

### 1.1 Overview

This report provides an overview of accomplishments and activities for the Hampton Roads Bridge-Tunnel Expansion Project from February 19, 2023 – March 18, 2023. The Design-Builder for the project is Hampton Roads Connector Partners (HRCP), a consortium that includes lead contractors Dragados, Vinci, Flatiron, and Dodin Campenon Bernard, with lead designers HDR and Mott MacDonald.

The current reporting period is aligned with HRCP's fiscal-month structure, on which the project's design-build schedule updates and invoiced construction progress are based. Reporting periods typically close on the Saturday on or preceding the 24<sup>th</sup> of each month.

During this reporting period, project accomplishments included the following:

- South Island Progress:
  - Completed installation of South Island Expansion Cell 1 cofferdam.
- Tunnel Progress:
  - Precast tunnel segment liner production 56% complete.
- North Island Progress:
  - Jet grout break-in/break-out block 54% complete.
  - Completed installation of sheet pile for support of excavation at tunnel approaches.
  - Finalized preparations for excavation of the Receiving Pit.
- Landside Progress:
  - Completed installation of formwork and column reinforcement at 4<sup>th</sup> View Street Bridge Pier 1 for eastbound widening.
  - Completed parapet slipform operations at Bay Ave. bridge for the eastbound on-ramp.
- Marine Progress:
  - North Trestle eastbound decks 54% complete.
  - North Trestle westbound piles 28% complete.
  - South Trestle beams 14% complete.

### 1.2 Priorities

VDOT's priorities for the Project are to achieve the following objectives:

- To provide mobility enhancements and travel-time reliability along the Project corridor.
- To minimize Project impacts on adjacent communities.
- To improve transportation operations and safety throughout the Project corridor.
- To develop public infrastructure in a financially responsible manner.

## 1.3 Key Updates

### Project Schedule

The last approved schedule for the project is Update 43 (data date: February 19, 2023), and the schedule information in this report reflects this update.

- Contractual Substantial and Final Completion Dates remain unchanged.
- HRCP's Schedule Update 43 is reporting Substantial Completion date of August 31, 2026.
- HRCP's Schedule Update 43 is reporting Final Completion date of October 30, 2026.

### Project Budget

The project budget summary below now includes all incurred to date costs through March 18, 2023 and does not include forecasted cost outside of the reporting period.

- Project budget overview:

Current total project budget:	\$ 3,935,451,641
Total costs to date:	\$ 1,744,997,568
<b>Remaining project budget:</b>	<b>\$ 2,190,454,073</b>

- Design-build contract overview:

Design-build contract original amount:	\$ 3,299,997,227
Net change orders:	\$ 4,974,587
Exercised Options:	\$ 73,454,414
Material Price Adjustments to Date:	\$ 2,349,842
Assessed Liquidated Damages (LD):	\$ (79,000)
Design-build contract sum to date:	\$ 3,380,697,070
Expenditures to date:	\$ 1,662,474,308
<b>Remaining design-build contract amount:</b>	<b>\$ 1,718,222,762</b>

- Design-build progress to date:

Project Management:	58.0%
Design:	90.0%
Physical Construction Progress:	30.5%
<b>Overall:</b>	<b>49.2%</b>

## Environmental

Environmental updates for this reporting period include:

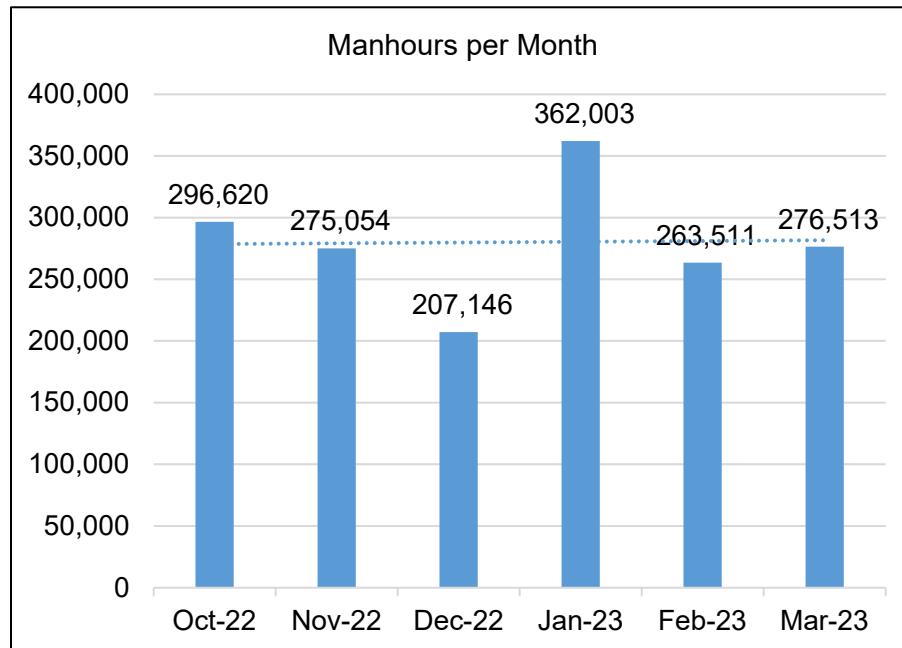
- Quarterly agency status meeting held by HRCP on February 22, 2023.

## Construction

Summary progress updates for this reporting period include:

- Landside Roadways
  - Continued roadway widening, drainage, and supporting construction throughout the project extents.
- Marine Works
  - Placed decks at North eastbound permanent trestle (2.5 installed this period).
  - Drove piles at North westbound permanent trestle (10 installed this period).
  - Placed caps at South eastbound permanent trestle (5 installed this period).
  - Set beams at South eastbound permanent trestle (43 installed this period).
- Tunnels and Islands
  - Completed installation of sheet piles for support of excavation at North Island tunnel approaches.
  - Continued preparations for excavation of the North Island Receiving Pit.
  - Completed installation of South Island Expansion Cell 1 Cofferdam.
  - Continued assembly of the TBM in the South Island Launching Pit, Gantry 1, 2, and 3.
- Landside Bridges
  - Began installation of diaphragm rebar and formwork at Willoughby Bay bridge for eastbound widening.
  - Completed installation of formwork and column reinforcement at 4th View St. bridge Pier 1 for eastbound widening.
  - Began repair/rehabilitation of existing Mason Creek bridge eastbound and westbound.
  - Completed girder setting at Bay Ave. bridge Spans 2-11 for eastbound widening.
  - Continued preparations for opening the new Bay Ave I-64 EB on-ramp.
  - Completed parapet slip-form operations for the Bay Ave. Bridge eastbound on-ramp.

The number of construction manhours worked each month is provided by HRCP and is current as of March 31, 2023:



**Project Manhours to Date:**  
6,935,080

## Operations

The following operations activities took place during this reporting period:

- New long-term detour on West Evans St. to facilitate bridge widening.

## Quality

Quality updates for this reporting period include:

- VDOT continues to monitor HRCP's QA and QC material testing. VDOT also performed Independent Testing and Verification Testing on materials in accordance with VDOT requirements and coordinated with VDOT Materials Division for shop inspections as required.
- VDOT continues to engage HRCP in discussions on HRCP's implementation of their Quality Management System Plan (QMSP) and the effectiveness of the plan.

## Safety

The following safety performance indicator information is provided by HRCP and is current as of March 31, 2023:

- Total Recordable Incidence Rate: 1.50 (National Average: 2.5)
- Lost Time Incidence Rate: 0.17 (National Average 1.6)



## Civil Rights & DBE/SWaM Business Opportunities

HRCP has awarded **327** subcontracts, subconsultant agreements, and purchase orders to certified DBE/SWaM firms on the project. These contract awards represent a total of **\$517.1 million** to certified DBE/SWaM firms.

## Public Outreach & Media

Public outreach and project media updates provided by VDOT and HRCP for this reporting period include:

- "HRBT Tunnel Talk" podcast released.
- TBM Tunnel Business Magazine featured HRBT Project.

## 2. Project Schedule

### 2.1 Schedule Status

The following table depicts key milestone dates for the project and has been updated as of the current approved schedule. The last approved schedule for the project is Update 43 (data date: February 19, 2023), and the schedule information in this report reflects this update. Update 43 projects substantial completion on August 31, 2026, and final completion on October 30, 2026. Contractual Substantial and Final Completion dates remain unchanged.

	Contract Requirement	February 2023 Schedule	Actual
<b>NTP</b>		Sep 11, 2020	Sep 11, 2020
<b>Substantial Completion</b>	Sep 1, 2025	Aug 31, 2026	
<b>Final Completion</b>	Nov 1, 2025	Oct 30, 2026	

### 2.2 Longest Path

The longest path/critical path in Project Schedule Update 43 is driven by the following activities:

- Assembly of the Tunnel Boring Machine (TBM) in launching pit
- TBM Commissioning
- TBM drive in High Occupancy Toll Tunnel
- TBM U-Turn on North Island
- TBM drive in General Purpose Tunnel
- TBM Disassembly in south pit
- South Portal Cut and Cover Structures – Phase 4 Cell 1
- South Island Ventilation Building and Gate House – Phase 2
- South Ventilation Building Commissioning
- South Island Buildings Integrated Functional Testing
- Tunnel Systems Integration – ITS
- Commissioning – High Occupancy Toll and General Purpose Operational Testing
- Commissioning – Tunnel, Buildings, Roadways, and Trestles Integration Testing
- ITT Reversal
- Substantial Completion

## 2.3 Impact Analysis

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Several elements of work are near-critical and could affect schedule performance if they are not addressed diligently. VDOT and HRCP are closely monitoring these activities. The following work elements have been identified as near critical, meaning there is less than one month of float in Schedule Update 43.

### **South Portal**

- South Portal Cut and Cover Structures – Phase 5
- General Purpose Tunnel – Interior Structures Construction
- South Portal Cell 2 Permanent Structures – Exterior Walls, Ballast, Interior Slabs
- South Portal Cell 3 Permanent Structures – Roof Slabs

### **South Island**

- South Island – Slurry Treatment Plant – Complete Filter Press Area, Bi-Component Plant, Utility Surface Piping and Building
- South Island – Slurry Treatment Plant Commissioning
- South Island – Additional Conveyor and Quay Mooring Piles and Fenders
- South Island – Northside Expansion – Clear Cluster 109
- South Island – Temporary Private Utilities (Verizon & VDOT/COX)

### **Tunneling**

- Tunneling – Final – Gantry Assembly, TBM Tailskin Assembly, and Thrust Frame Assembly

### **North Island**

- North Portal – Cell 1 and 2 Excavation
- North Portal – Mud Slab, Temporary Headwall, and Base Slabs Construction
- North Portal – Phase 3 and 4 –Tunnel Construction

### **Roadway and Land Bridges**

- Segment 1 Phase 1 – I-64 North Shore Roadway, Waterline Relocation, Drainage, and RW108
- Segment 1 – Shore Feeder Medium Voltage Cable Relocation
- Segment 1, 3, 3b, 3d, & 4 – ITS – Lane Use Signals, Overhead Sign Structure, Dynamic Messaging Sign, and Overheight Detector
- Segment 3b Phase 1, 2, 3A – I-64 Willoughby Spit PV Drains/Ground Improvement, Retaining Walls, Drainage, Roadway, and Temporary Lighting
- Segment 3b Phase 4 – 13<sup>th</sup> Avenue Ramp F Construction
- Segment 3d Phase 2A, 3 & 4 – Willoughby Bridge to Mason Creek – Median Widening, Retaining Walls, Storm Drainage and Roadway
- Segment 3d 4<sup>th</sup> View Ramp H & I – Surcharge and Ramp Construction
- Segment 4 Phase 2, 3, 4 – Norfolk to Navy – Median Widening, Retaining Walls, Storm Drainage, and Roadway
- Bayville St. Bridge – Eastbound Abutment B

- Willoughby Bay Bridge – Eastbound/Westbound Superstructure Construction, Westbound Rehabilitation
- 4<sup>th</sup> View St. Bridge – Eastbound Abutment A
- 1<sup>st</sup> View Bridge – Westbound Abutments A & B, and Median Piers
- Bay Ave. Bridge – Westbound Substructure and Superstructure Construction, Westbound Rehabilitation
- Evans St. Bridge – Eastbound Abutment B and Approach Slab Construction
- Bayview Blvd. Bridge – Eastbound Abutment A and Superstructure
- Oastes Creek Bridge – Westbound Substructure/Superstructure and Abutment B Approach Slab
- Patrol Rd. Bridge – Eastbound Abutment A & B Substructure Construction

### **Trestles**

- North Trestle Utilities – Eastbound Temporary MV Utility, Westbound Conduits & Hangers and Permanent Wet Utilities
- North Trestle Eastbound – Zone 1 – Abutment A, Substructure/Superstructure Construction
- North Trestle Westbound – Zone 8, 9, and 10 – Substructure/Superstructure Construction
- North Trestle – Eastbound Demolition
- South Island Expansion – Marine Works, Land Works, and Island Expansion
- South Trestle Utilities – Private Utility Relocation
- South Trestle – Zone 5 Superstructure Construction
- South Trestle – Zone 7, 8, and 9 – Abutment D, Substructure and Superstructure Construction
- South Trestle – Existing Trestle Demolition

### **Commissioning and Integration**

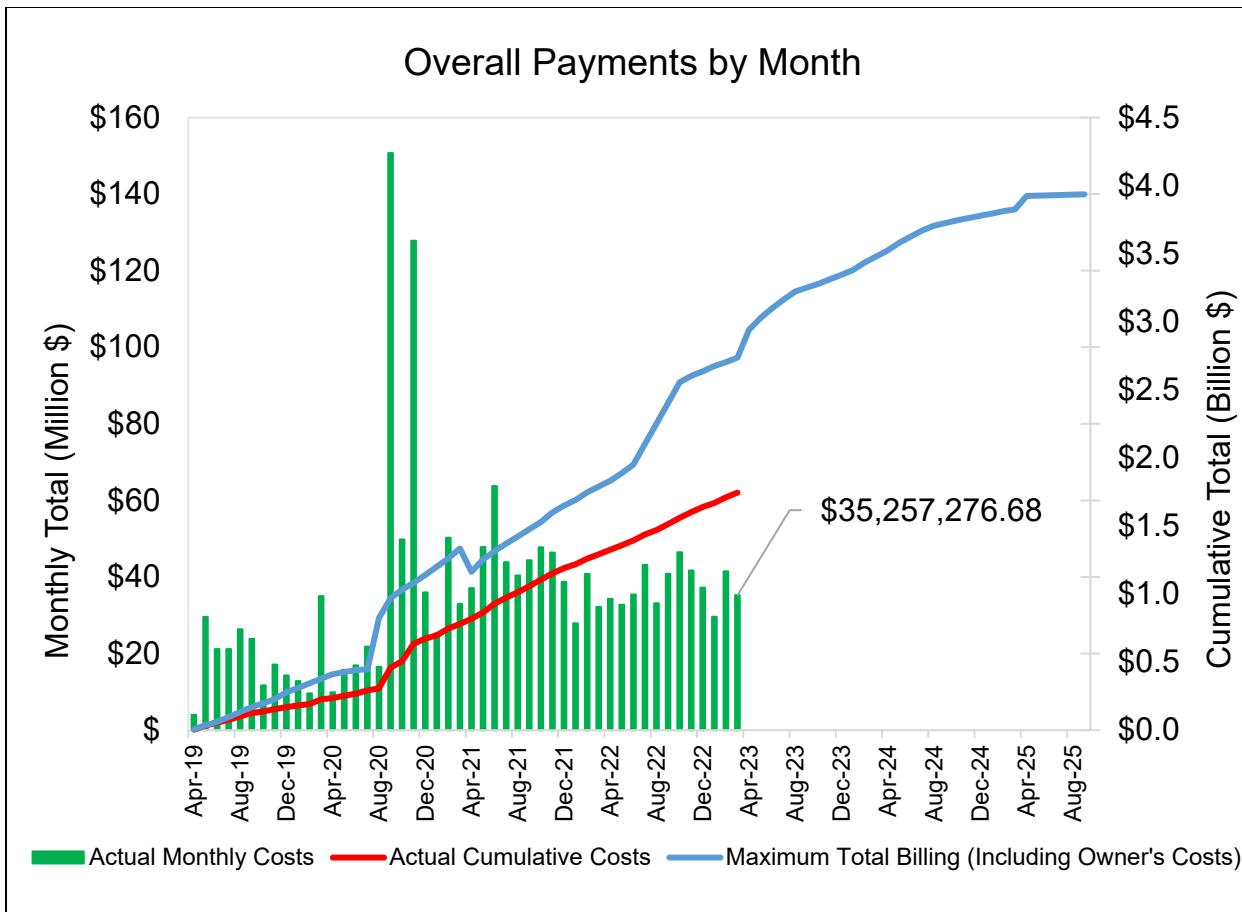
- General Purpose Tunnel – Functional Testing – Low Point Pump Station Drainage, Fire Suppression and Detection, Booster Fans, Lighting
- North Island Buildings – Functional Testing – Mechanical Pressurization
- South Island Buildings – Functional Testing – Electrical Medium Voltage/Low Voltage
- Commissioning – Operational Testing – General Purpose Fire System, General Purpose Medium Voltage/Low Voltage, General Purpose Drainage System

### 3. Project Budget

#### 3.1 Overall Budget

The overall budget outlined in this report is based on the terms and conditions of Article 3 (Project Funding) in the Project Agreement for Funding and Administration (PAFA). The cost curve is based on Exhibit 6 of the Comprehensive Agreement (monthly maximum cumulative compensation amount).

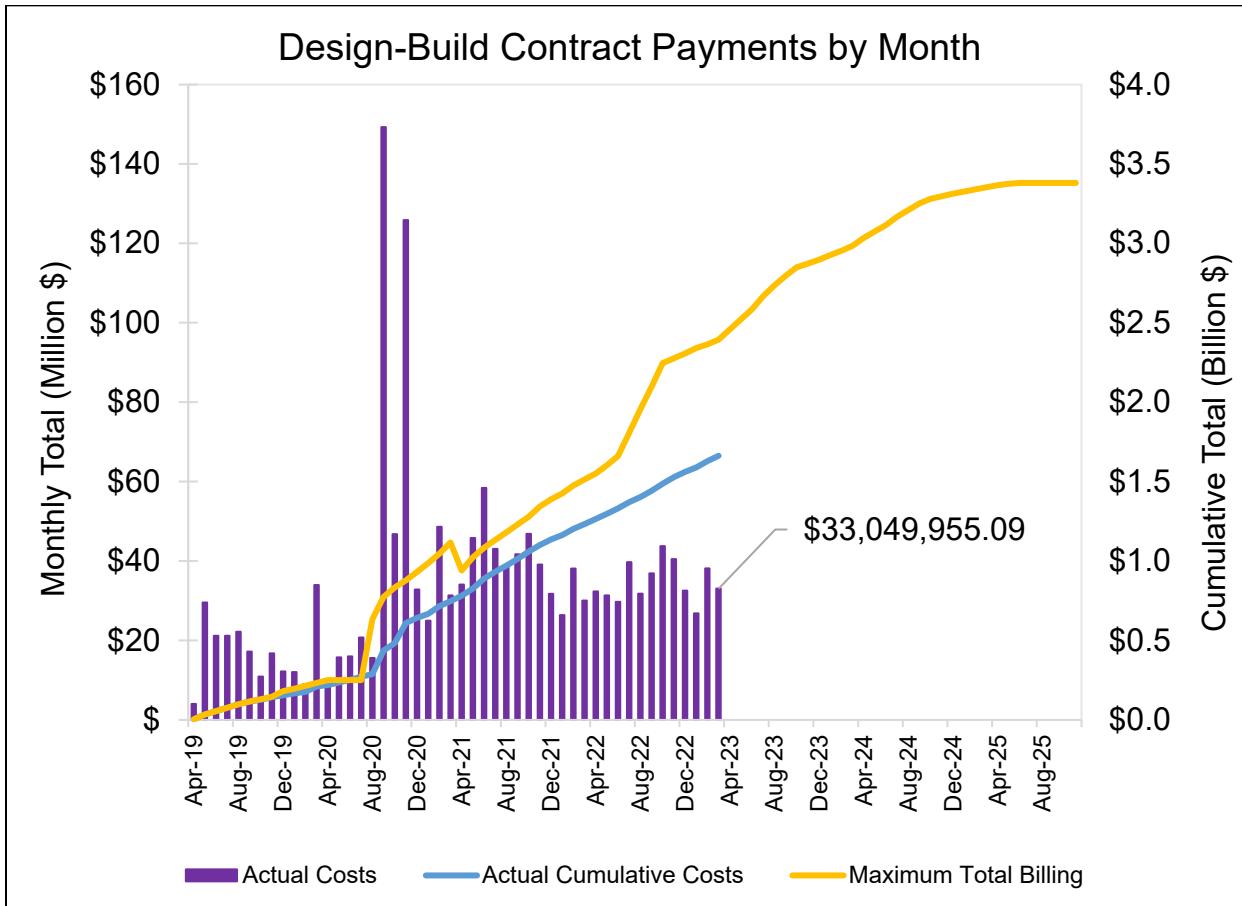
	Amount Spent this Period:	Total Spent to Date:	Original Total Budget:	Total Remaining Budget:	Percent Spent To-date:
<b><u>Comprehensive Agreement</u></b>					
<i>Construction</i>	\$33,049,955.09	\$1,636,850,118.59	\$3,299,997,227.00	\$1,663,147,108.41	49.60%
<b><u>Owner Costs</u></b>					
<i>Administration</i>	\$630,311.05	\$69,789,301.68	\$122,000,000.00	\$52,210,698.32	57.20%
<i>Right of Way</i>	\$10,998.18	\$8,733,958.71	\$15,000,000.00	\$6,266,041.29	58.23%
<i>No-Excuses Incentive</i>	\$0.00	\$0.00	\$90,000,000.00	\$90,000,000.00	0.00%
<i>Contingency</i>	\$1,321,228.58	\$25,122,335.64	\$335,000,000.00	\$309,877,664.36	7.50%
<i>Bridge Repair Work Option</i>	\$244,783.78	\$4,501,853.43	\$73,454,413.96	\$68,952,560.53	6.13%
<b>Total</b>	<b>\$35,257,276.68</b>	<b>\$1,744,997,568.05</b>	<b>\$3,935,451,640.96</b>	<b>\$2,190,454,072.91</b>	<b>44.34%</b>



\*The Maximum Total Billing is now showing an adjustment in May 2021 due to the executed Change Order #40 – Update Maximum Cumulative Cost Curve

### 3.2 Design-Build Contract Cost Status

The budget and planned cost have been established based on the maximum cumulative compensation amount. For this period, the invoiced expenditures cover the activities noted in this report.



*\*The Maximum Total Billing is now showing an adjustment in May 2021 due to the executed Change Order #40 – Update Maximum Cumulative Cost Curve*

### 3.3 Budget by Funding Source

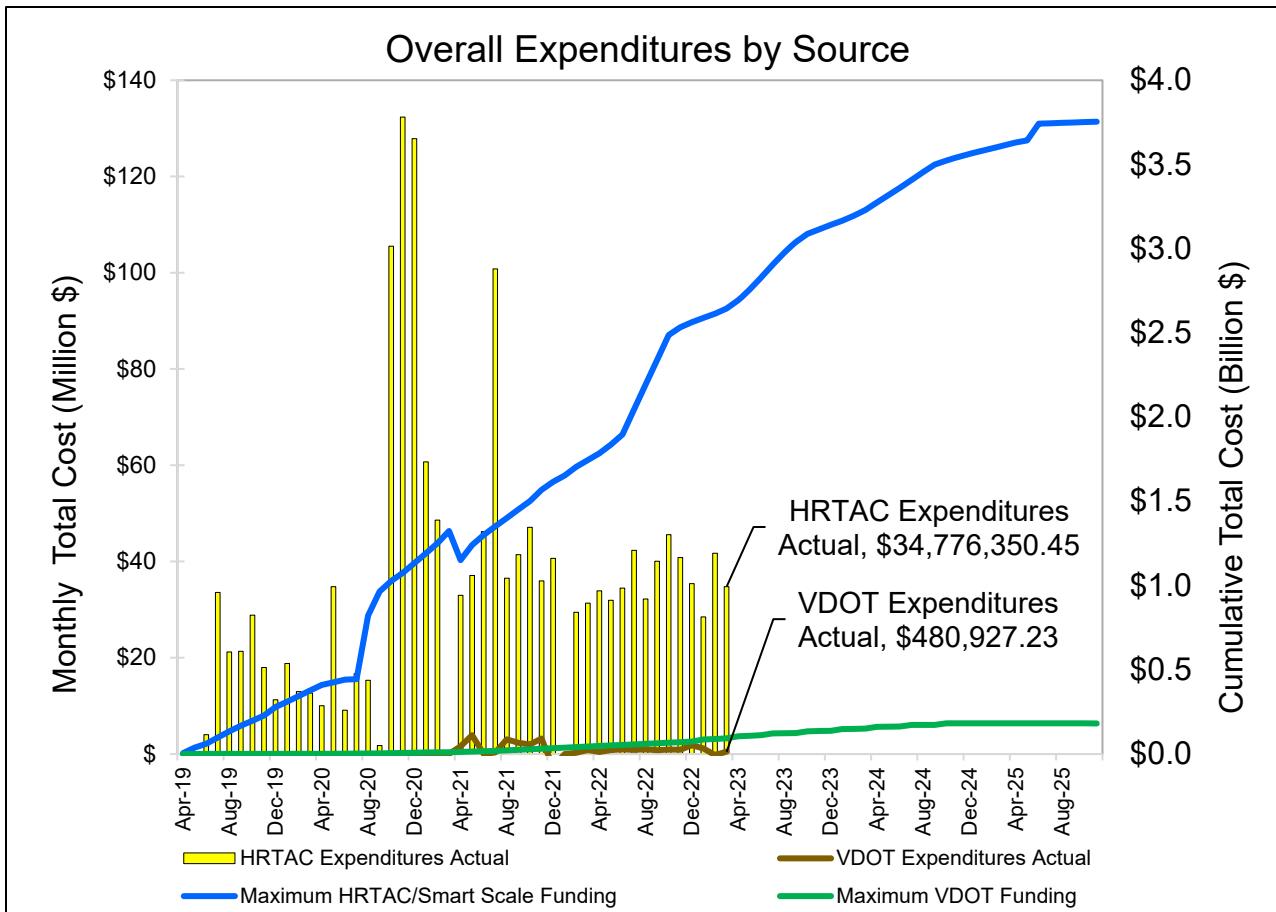
The budget for expenditures by funding source is based on the terms and conditions of Article 3 (Project Funding) and Exhibit 5 of the PAFA. This section outlines planned expenditures of both HRTAC and VDOT funds. The cost curve has been developed based on the monthly maximum cumulative compensation amount in the Comprehensive Agreement and will be updated as HRCP refines its design, construction means-and-methods, activity sequences, and project resourcing.

#### 3.3.1 HRTAC and Smart Scale

	Amount Spent this Period:	Total Spent to Date:	Original Total Budget:	Total Remaining Budget:	Percent Spent To-date:
<b>Comprehensive Agreement</b>					
<i>Construction</i>	\$33,049,955.09	\$1,620,989,453.68	\$3,204,569,251.00	\$1,583,579,797.17	50.58%
<b>Owner Costs</b>					
<i>Administration</i>	\$428,251.43	\$67,694,917.68	\$118,472,054.00	\$50,777,136.32	57.14%
<i>Right of Way</i>	\$10,998.18	\$8,733,958.71	\$15,000,000.00	\$6,266,041.29	58.23%
<i>No-Excuses Incentive</i>	\$0.00	\$0.00	\$90,000,000.00	\$90,000,000.00	0.00%
<i>Contingency</i>	\$1,287,145.75	\$24,103,286.68	\$325,428,276.00	\$301,324,989.32	7.41%
<b>Total</b>	<b>\$34,776,350.45</b>	<b>\$1,721,521,616.90</b>	<b>\$3,753,469,581.00</b>	<b>\$2,031,947,964.10</b>	<b>45.86%</b>

#### 3.3.2 VDOT

	Amount Spent this Period:	Total Spent to Date:	Original Total Budget:	Total Remaining Budget:	Percent Spent To-date:
<b>Comprehensive Agreement</b>					
<i>Construction</i>	\$0.00	\$15,860,664.76	\$95,427,976.00	\$79,567,311.24	16.62%
<b>Owner Costs</b>					
<i>Administration</i>	\$202,059.62	\$2,094,384.00	\$3,527,946.00	\$1,433,562.00	59.37%
<i>Right of Way</i>	\$0.00	\$0.00	\$0.00	\$0.00	0.00%
<i>No-Excuses Incentive</i>	\$0.00	\$0.00	\$0.00	\$0.00	0.00%
<i>Contingency</i>	\$0.00	\$1,019,048.96	\$9,571,724.00	\$8,552,675.04	10.65%
<i>Bridge Repair Work Option</i>	\$244,783.78	\$4,501,853.43	\$73,454,413.96	\$68,952,560.53	6.13%
<b>Total</b>	<b>\$480,927.23</b>	<b>\$23,475,951.15</b>	<b>\$181,982,059.96</b>	<b>\$158,506,108.81</b>	<b>12.90%</b>



### 3.4 Contingency

#### 3.4.1 Contract Changes

	Description	Date	Value	Time
CO-1	VDOT's Acquisition of Willoughby Staging Area	2/11/2020	\$ (3,000,000.00)	0 days
CO-2	Minor Revisions to Technical Requirements	3/18/2020	\$ -	0 days
CO-3	Tunnel Approach Structure Support of Excavation Requirements Refinement	4/28/2020	\$ -	0 days
CO-4	Dispute Resolution Board (DRB) Allowance	5/12/2020	\$ 200,000.00	0 days
CO-5	North Island Armor Stone Value Engineering Change Proposal (VECP)	4/28/2020	\$ (2,011,117.50)	0 days
CO-6	Exit Ramp at Bayville Avenue	5/29/2020	\$ 46,906.29	0 days
CO-7	Minor revisions to the Technical Requirements	7/16/2020	\$ -	0 days
CO-8	Zero Spread Drainage	9/16/2020	\$ 3,239,212.24	0 days
CO-9	Roadway and Bridge Scope Validation Issues	9/4/2020	\$ 15,516,248.00	0 days
CO-10	Slurry Walls as Permanent Structures	8/28/2020	\$ -	0 days
CO-12	Road and Bridge Lighting Requirements	8/27/2020	\$ 2,495,000.00	0 days
CO-13	Bridge Repair Work-Exercise Option	10/9/2020	\$ 73,454,413.96	0 days
CO-14	Trestle Barrier Form Liner Elimination	7/29/2020	\$ (99,571.80)	0 days

CO-15	South Island Ground Improvement Value Engineering Change Proposal (VECP)	9/17/2020	\$ (5,338,000.00)	0 days
CO-16	Navy Security Fencing Design	7/15/2021	\$ 150,000.00	0 days
CO-17	Westbound ITT Reduced Instrumentation	10/30/2020	\$ (184,277.50)	0 days
CO-18	Willoughby Bay Bridge Barriers	9/10/2020	\$ -	0 days
CO-19	GeoPak Version Software Updates	8/3/2020	\$ -	0 days
CO-21	Material Price Adjustment for Asphalt Materials	2/26/2021	\$ -	0 days
CO-22	South Island Asbestos Conduits	9/16/2020	\$ 81,973.93	0 days
CO-23	Island & Tunnel Baseline Monitoring Requirements	7/22/2020	\$ -	0 days
CO-24	Construction Water Supply	9/10/2020	\$ (609,157.27)	0 days
CO-25	Solids Handling Pumps Requirements	11/12/2020	\$ -	0 days
CO-26	Mass Notification Independent System Requirements	11/12/2020	\$ -	0 days
CO-27	Fixed Fire Fighting System Requirements	11/16/2020	\$ -	0 days
CO-28	HOT Lane Shoulder Width	3/29/2021	\$ 2,950,000.00	0 days
CO-30	Willoughby Bay Bridges Fender & Lighting Replacement	2/12/2021	\$ 1,495,000.00	0 days
CO-31	Builder's Risk Insurance	10/21/2021	\$ 1,500,000.00	0 days
CO-32	VCU Fisheries and SAV Mitigation Plan	4/16/2021	\$ (1,042,144.00)	0 days
CO-33	Tunnel Finishes Height	12/18/2020	\$ -	0 days
CO-38	H-Piles in Aggressive Soils	12/18/2020	\$ (47,541.00)	0 days
CO-39	Re-use of Existing Drainage Pipes	4/20/2021	\$ (100,984.25)	0 days
CO-40	Update Maximum Cumulative Cost Curve	7/15/2021	\$ -	0 days
CO-41	Wetland Mitigation Costs	4/26/2021	\$ 3,503,400.00	0 days
CO-42	Navy Gate 22 Drainage Design and Construction	8/19/2022	\$ 1,524,940.16	0 days
CO-43	Hybrid Trestle Beam Design	7/2/2021	\$ -	0 days
CO-44	SCADA Control of Deluge Valves	7/27/2021	\$ -	0 days
CO-45	HRCP Project Executive/Representative Change	5/24/2021	\$ -	0 days
CO-46	Tunnel Sprinkler Heads Material Change	7/28/2021	\$ -	0 days
CO-47	Evans Street Approach Slab Settlement Repair	6/22/2022	\$ 34,082.83	0 days
CO-48	Scope Reduction – City of Hampton	8/24/2022	\$ (6,072,941.31)	0 days
CO-49	HRCP Senior Representative Change	7/2/2021	\$ -	0 days
CO-50	Change in Precast Form Tolerance & Curing Methods	1/10/2022	\$ -	0 days
CO-53	Sound Wall Quantity Reconciliation	12/6/2021	\$ (16,561,217.63)	0 days
CO-54	4th View Interchange Design and Construction Drainage	8/17/2022	\$ 984,598.45	0 days
CO-55	HREL Overlap Scope Change in Norfolk - Proposal Costs	8/12/2022	\$ 157,237.34	0 days
CO-56	Building Code Changes - Design	10/21/2022	\$ 2,186,150.00	0 days
CO-57	Design-Builder's Senior and Representative Changes	1/11/2022	\$ -	0 days
CO-59	Fisheries and SAV Mitigation Plan - VCU	6/16/2022	\$ (70,238.22)	0 days
CO-60	Navy Fence (remaining design costs)	8/17/2022	\$ 180,142.36	0 days
CO-61	HRELN Tie-In Zero Drainage Spread	11/29/2022	\$ 2,965,469.69	0 days
CO-62	SIP Forms for Marine Bridges	6/28/2022	\$ -	0 days
CO-64	Tolling Infrastructure Proposal Costs	10/21/2022	\$ 645,242.40	0 days
CO-65	SRPMs	3/3/2023	\$ 256,174.09	0 days
CO-68	Buoyancy Calculations	3/3/2023	\$ -	0 days
		<b>TOTAL</b>	<b>\$ 78,429,001.26</b>	<b>0 days</b>

### 3.4.2 Material Price Adjustments

This progress period included the following material price adjustments:

Material	Current Amount	Total to Date	Material Price Adjustment Through
Asphalt	\$ 4,599.43	\$ 56,500.99	January 2023
Fuel	\$ 32,627.01	\$ 264,443.73	January 2023
Steel	\$ 0.00	\$ 2,028,896.89	September 2022
<b>Total</b>		<b>\$ 2,349,841.61</b>	

## 4. Environmental

The following environmental management activities occurred during this reporting period:

**Permits:**

- Quarterly agency status meeting held by HRCP on February 22, 2023.

**Marine Mammal Protection:**

- No new activities.

**Bird Mitigation:**

- HRCP continued repairs of passive bird measures in preparation for 2023 migration season.

**Programmatic Agreement:**

- No new activities.

**Archeological Discoveries:**

- No new activities.

## 5. Construction

The figure below illustrates a map of the project corridor. The project is further categorized into four construction areas.

- Construction Area 1 is composed of landside road work.
- Construction Area 2 is composed of marine work, including the North Trestle, South Trestle, and island expansions.
- Construction Area 3 is composed of tunnel and island site work.
- Construction Area 4 is composed of landside road and bridge work.



## 5.1 Construction Area 1: Landside Roadways

### I-64 (Segment 1):

- Continued drainage installation along I-64 median north of Mallory St.
- Began coping installation near retaining wall BC02 adjacent to the proposed Blue Crab Substation, and retaining wall 103 adjacent to Mallory St. Abutment A.

### I-64 (Segment 3):

- Drainage installation near Willoughby bridge Abutment A for eastbound widening.
- Panel installation for retaining wall 308 near Willoughby Bay Abutment B for eastbound widening.
- Drainage installation near I-64 off ramp to Bayville St. for eastbound widening.
- Drainage installation along I-64 on and off ramps at 4<sup>th</sup> View St. for eastbound widening.
- Began excavation and grading for retaining wall 301 near I-64 off-ramp to Bayville St. for eastbound widening.
- Coping installation along retaining wall 311 between 4<sup>th</sup> View St. and Mason Creek Rd. for eastbound widening.
- Began coping installation along retaining wall 401 between Mason Creek Rd. and 1<sup>st</sup> View St. for eastbound widening.
- Began median grading work near the Willoughby Inspection Station in Norfolk.

### I-64 (Segment 4):

- Permanent subgrade preparation between Bay Ave. and Evans St. for eastbound widening.
- Installation preparation for retaining wall 405 adjacent to Evans St. Abutment A for eastbound widening.
- Sheet driving at retaining wall 402 adjacent to Bay Ave. Abutment A for eastbound widening.
- Embankment fill and geogrid placement between 1<sup>st</sup> View St. and Bay Ave. for eastbound widening.



◀ I-64 EB (Segment 3)  
4<sup>th</sup> View St. ramp  
drainage structure  
installation

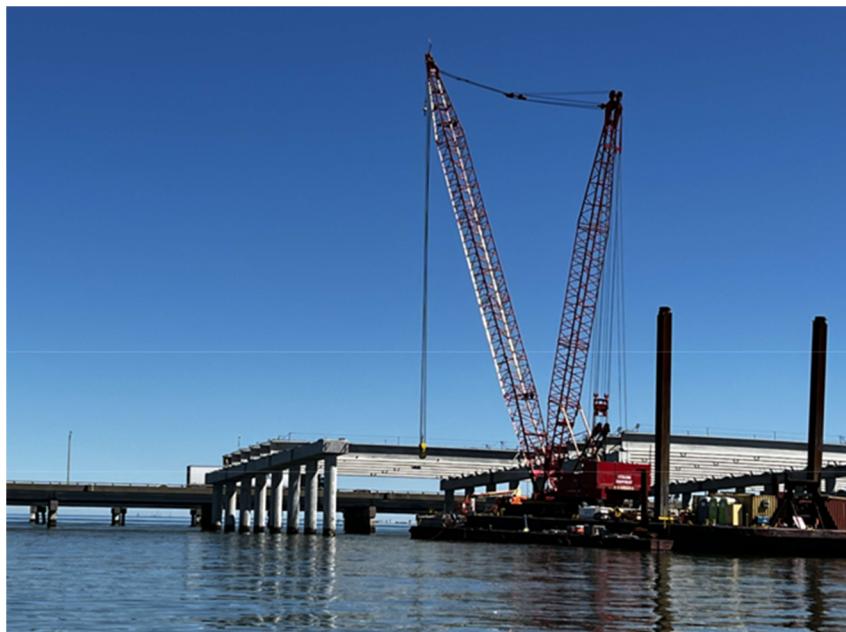
## 5.2 Construction Area 2: Marine Trestle Work

### North Trestle:

- **Eastbound Trestle**
  - 2.5 decks placed during this period (19.5 out of 36 total decks placed).
- **Westbound Trestle**
  - 10 piles installed during this period (72 out of 261 total piles driven).
  - 4 beams placed during this period (27 out of 281 total beams placed).

### South Trestle:

- **Eastbound Trestle**
  - 5 caps placed during this period (28.5 out of 70 total caps placed).
  - 43 beams placed during this period (97 out of 698 total beams placed).



◀ **South Trestle Eastbound**  
Span 37 beam erection

## 5.3 Construction Area 3: Tunnels and Islands

### South Island:

- Continued west side slurry wall demolition, excavation, and rebar installation and concrete placement for the rectilinear approach capping beams.
- 25% complete for waterproofing launching pit walls.

### South Island Expansion:

- **Cell 1 Cofferdam**
  - Completed pipe piles driven during this period (64 total piles driven).
  - Completed sheet piles driven during this period (65 total piles driven).

### North Island:

- Completed installation of sheet piles for support of excavation at tunnel approaches.
- 71% complete for capping beams overall (receiving pit and approach section).
- Completed temporary strut installation (level 1) for receiving pit.
- Continued instrumentation and dewatering well installation in preparation for receiving pit excavation.
- 54% complete for jet grout break-in/break-out block.

### Tunnel:

- 56% complete for precast tunnel segment liner production.
- Continued to work on TBM thrust frame assembly; continued pipe connections on TBM and between gantries; began segment feeder assembly (77% complete for TBM assembly)
- Installed remaining filter presses for Slurry Treatment Plant.



#### ► South Island

STP Filter Presses with control room featuring Katherine Johnson

Total Segments Required:	Conforming Segments Cast To-Date:	Percentage Complete:
21,492	12,089	56%

## 5.4 Construction Area 4: Landside Bridges

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### **Mallory Street Bridge:**

- Placed concrete at Abutment A footing for Phase 1 bridge replacement.

### **Willoughby Bay Bridge:**

- Continued installation of deck forms and overhangs for eastbound widening.
- Began installation of diaphragm rebar and formwork for eastbound widening.
- Began installation of lighting brackets.

### **4<sup>th</sup> View St Bridge:**

- Placed concrete at Pier 2 footing and columns for eastbound widening.
- Completed installation of formwork and column reinforcement at Pier 1 for eastbound widening.

### **Mason Creek Bridge:**

- Began repair/rehabilitation of existing eastbound and westbound bridges.

### **1<sup>st</sup> View Street Bridge:**

- Continued installation of formwork and rebar at Abutment A and B footings for eastbound widening.
- Continued coating operations for eastbound and westbound bridges.

### **Bay Avenue Bridge:**

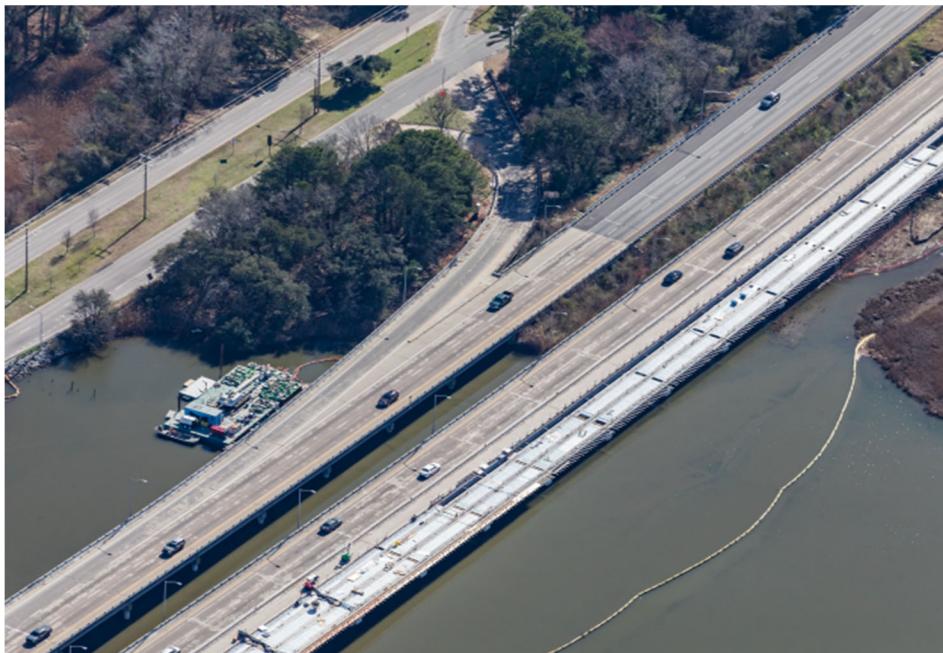
- Completed installation of lighting conduit and junction boxes in parapet for eastbound widening (ramp).
- Completed parapet slipform operations for eastbound widening (ramp).
- Continued approach slab reconstruction and widening operations for eastbound widening (ramp).
- Continued overhang reconstruction for eastbound widening (ramp).
- Continued repair/rehabilitation of existing eastbound bridge (mainline and ramp).
- Completed girder setting for Spans 2 – 11 for eastbound widening.
- Began installation of formwork and anchor bolts for parapet light blisters for eastbound widening (ramp).

### **Bayview Boulevard Bridge:**

- Continued repair/rehabilitation of existing eastbound and westbound bridges.

### **Oastes Creek Bridge:**

- Continued installation of deck forms and rebar for end diaphragms for eastbound widening.
- Continued repair/rehabilitation of existing eastbound bridge.



► **Mason Creek Bridge**  
Aerial view



► **Bay Ave. Bridge**  
Aerial view

## 6. Operations

Operations activities include shoulder and lane closures, creation and maintenance of Intelligent Transportation System (ITS) architecture, other maintenance within the corridor, coordination with existing VDOT Operations, and communication with the Hampton Roads Harbor Tunnels (HRHT) facility staff. The following operations activities occurred during this reporting period:

### **Short-Term Lane Closures:**

- Willoughby Bay Bridge, North Trestle, and South Trestle eastbound to facilitate ongoing concrete placement for piles, caps, and decks.
- Willoughby Bay Bridge, North Trestle, and South Trestle eastbound for beam placement.
- South and North Trestles for temporary conduit installation.
- Willoughby Bay Bridge and South Trestle for temporary lighting installation.
- Striping maintenance throughout project corridor.
- I-64 eastbound and westbound slow rolls for modification of temporary signal trusses.

### **Long-Term Lane Closures:**

- Bay Ave. in Norfolk to facilitate access to staging area for widening Oastes Creek Bridge.
- Bayview Blvd. in Norfolk and Mallory St. in Hampton to facilitate bridge widening.
- West Ocean Ave. in Norfolk traffic shift to facilitate bridge widening.
- 4<sup>th</sup> View St. in Norfolk traffic shift to facilitate bridge widening.

### **Hampton Lane Shifts:**

- No new activities.

### **Norfolk Lane Shifts:**

- No new activities.

### **Detours:**

- Long-term detour at West Evans St. to facilitate bridge widening.
- Long-term detour on West Bay Ave. on-ramp to eastbound I-64 for bridge widening work.
- Long-term detour on 1<sup>st</sup> View St. to facilitate bridge widening.

### **Intelligent Transportation System (ITS):**

- Installation of ITS conduit on the South Trestle.
- Installation of Medium Voltage and Communications duct bank on North Shore.

### **Routine Maintenance:**

- HRCP performed routine incident management and maintenance operations within the corridor.
- HRCP continued removing raised pavement markers throughout the corridor.

## 7. Quality

Quality updates for this reporting period include:

### **Construction Quality Management Plan (CQMP) Updates:**

- VDOT reviews CQMP updates as part of final “Released for Construction” (RFC) design packages and “Notice of Design Change” (NDC) packages. There were 2 NDC updates reviewed this period. These updates included specific testing and inspection plans for the work shown in the corresponding RFC plans and a staffing matrix showing quality assurance and quality control staffing for the work.

### **Independent Assurance (IA) Testing Activities:**

- VDOT continues to monitor HRCP’s QA and QC material testing. VDOT also performed Independent Testing and Verification Testing on materials in accordance with VDOT requirements and coordinated with VDOT Materials Department for shop inspections as required. This testing included oversight of the HRCP precast yard in Chesapeake and Technopref’s precast yard in Cape Charles producing the tunnel lining segments.

### **Quality Management System Plan (QMSP):**

- VDOT continues to engage HRCP in discussions on HRCP’s implementation of their QMSP and the effectiveness of the plan, which is updated quarterly.
- VDOT is currently reviewing revision 5 of the Tunnel Quality Plan. Approval of this plan is required before the tunnel boring operations can begin.

### **Quarterly Updates of Quality Plans:**

- HRCP resubmitted the quarterly updates of the Quality Management System Plan (QMSP), Construction Quality Management Plan (CQMP), and the Design Quality Management Plan (DQMP) for the fourth quarter of 2022. VDOT finalized review of these submissions.

### **Material Book Records:**

- VDOT conducted a monthly review of the current records, and HRCP is responding to audit comments provided by VDOT. Review of the Material Book records includes confirming that HRCP is completing the proper documentation for Buy America compliance. VDOT has completed the full audit of eleven volumes of Material Book records.

### **Routine Quality Activities:**

- VDOT’s quality team conducted reviews of written deficiency notices (WDNs), non-conformance reports (NCRs), root cause analyses and dispositions of deficiencies, with 28 NCRs reviewed for concurrence during this period. VDOT conducted reviews of QA and QC records for accuracy and quality issues and coordinated documentation reviews through VDOT’s Material Department. VDOT also continues a review of current construction quality by performing inspections based on VDOT’s Construction Quality Improvement Program (CQIP).

## 8. Safety

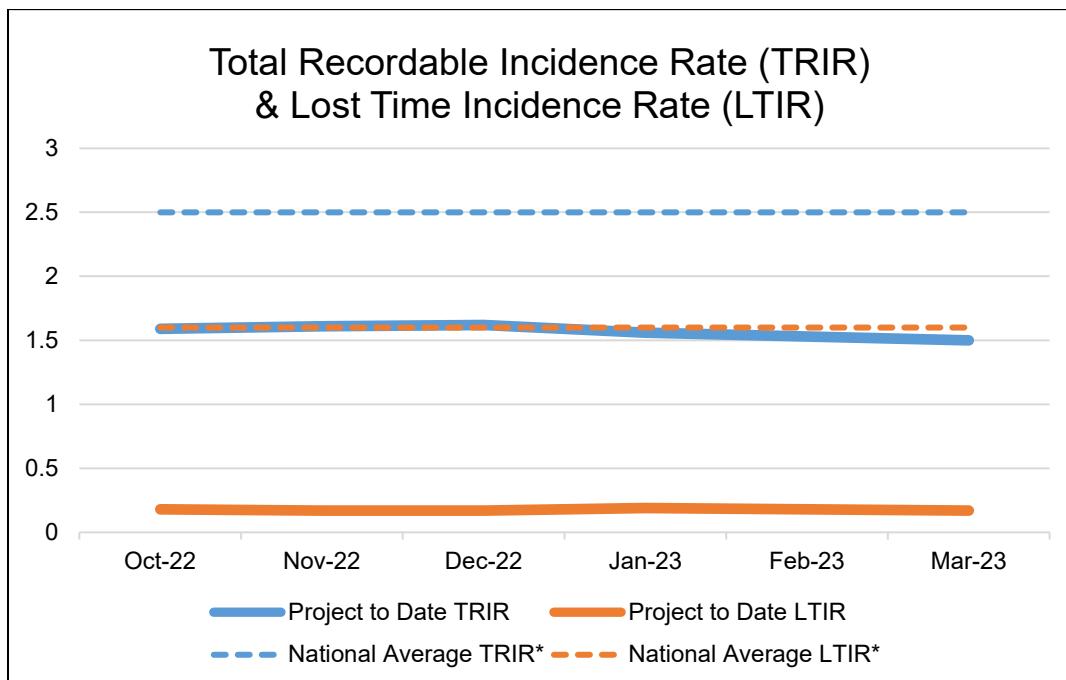
Safety procedures and activities during this reporting period include:

### Safety Site Visits:

- VDOT continued to conduct routine visits to promote safe work practices throughout the project.
- VDOT and HRCP continued collaboration on emergency response plan, with HRCP completing tabletop exercise for its severe weather response plan.

### Safety Performance Indicators:

- The following safety performance indicator information is provided by HRCP and is current as of March 31, 2023:



*\*National averages are from the Bureau of Labor Statistics, US Department of Labor – 2021 Data for Construction Industry, Published November 9, 2022.*

## 9. Civil Rights & DBE/SWaM Business Opportunities

To date, HRCP has awarded **327** subcontracts, subconsultant agreements and purchase orders to certified DBE/SWaM firms. During this reporting period, there was a slight increase in contract awards for a total of **\$517.1 million** due to newly issued change orders issued to active DBE/SWaM firms on the project.

### Compliance Activities:

- HRCP and VDOT met on February 21, 2023 to discuss compliance with prompt payment provisions of the Comprehensive Agreement, compliance document submission, proposed contractor closeout process, and active subcontractors/subconsultants on the project. HRCP provided updates to its administrative and accounting procedures for paying subcontractors and consultants performing on the project.
- Several Civil Rights Workgroup members met on March 8, 2023, to discuss DBE/SWaM and EEO compliance training for staff and contractors, website updates, and outreach efforts to increase the awareness and opportunities for small businesses on the Spoils Management/ Hauling and Tunnel Support Building packages.

### Workforce Development Activities:

- HRCP continued to make progress towards the 80 participant On-the-Job Training (OJT) contract goal. To date, 30 participants have completed all required training hours to graduate from the OJT program. Trades include carpenters, welders, field supervisors, excavator operators, pile drivers, mechanics, and skilled laborers.

### Business Development Activities:

- February 27, 2023 – U.S. Department of Labor Office of Federal Contract Compliance Programs Advancing Equity for Black Women in the Workplace (Virtual event on pay transparency, equal pay, and resource data)
- February 28, 2023 – City of Hampton & Virginia Small Business and Supplier Diversity (SBSD) Meet the Primes & Resource Panel
- March 2, 2023 – Hampton Roads BizWheel Quarterly Business Expo & Connection Event
- March 9, 2023 – Norfolk State University & SBSD, SWaM Outreach Event
- March 10, 2023 – City of Virginia Beach Minority Business Council, March Monthly Meeting
- March 13, 2023 – Conference of Minority Transportation Officials Hampton Roads General Monthly Membership Meeting
- March 14, 2023 – City of Chesapeake Economic Development, Small Business Symposium

## 10. Public Outreach & Media

The following public outreach and project media activities occurred in this period:

### Public Materials

- March 1, 2023 – [HRBT Tunnel Talk](#) “The Role of the Slurry Treatment Plant – Reuse, Recycle, Reduce”.
- March 13, 2023 – Winter 2023 Magazine [Released](#).

### Lane Closures/Advisories

- February 24, 2023 – Weekly Lane Closure Report
- March 3, 2023 – Weekly Lane Closure Report
- March 10, 2023 – Weekly Lane Closure Report
- March 17, 2023 – Weekly Lane Closure Report

### Media

- February 28, 2023 – Virginia Business Magazine: [A sampling of Virginia's major road projects – Virginia Business](#)
- March 2, 2023 – TBM Tunnel Business Magazine: [HRBT Expansion Project](#)
- March 7, 2023 – GE Ground Engineering – “Virginia's Hampton Roads Bridge-Tunnel progresses with TBM assembly” [Virginia's Hampton Roads Bridge-Tunnel progresses with TBM assembly/Ground Engineering \(GE\) \(geplus.co.uk\)](#)
- March 13, 2023 – “Major New Tunnel Expansion Project for Virginia” [Major new tunnel expansion project for Virginia | World Highways](#)

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[www.hrbtexpansion.org](http://www.hrbtexpansion.org)