

REHABILITATION OF FRANCIS SCOTT KEY BRIDGE
FROM ROSSLYN, ARLINGTON, VIRGINIA TO GEORGETOWN, WASHINGTON, DC
DC Contract No.: DCKA-2014-C-0074

FAP No.: BH-1104 (013)

CONSTRUCTION MANAGER'S
WEEKLY PROGRESS REPORT
From 07/21/2019 to 07/27/2019

Project Website: www.keybridgeproject.com



1. EXECUTIVE SUMMARY

Project Description:

The AECOM Construction Management and Inspection team is providing construction and inspection services for the Rehabilitation of the Francis Scott Key Bridge over the Potomac River (Bridge No. 0007). Francis Scott Key Bridge, built in 1929, is a historic 1,781-foot long reinforced concrete, open-spandrel arch bridge consisting of eight spans over the George Washington Parkway, Potomac River, Whitehurst Freeway, and C&O Canal. The bridge not only served as a major commuter route into Washington, DC, but was also listed on the National Register of Historic Places, which required coordination with the National Park Service since it spanned the C&O Canal and George Washington Parkway. This rehabilitation project is to restore the deteriorated portions of the structure, improving its structural integrity for another 30 years while maintaining those architectural features which contribute to its historical significance. The repair plans include conventional concrete patching repairs as well as strengthening with carbon fiber reinforced polymer reinforcing bars and sheeting materials. The construction cost is estimated to be approximately \$14.5 million.

The scope of the construction work includes the following:

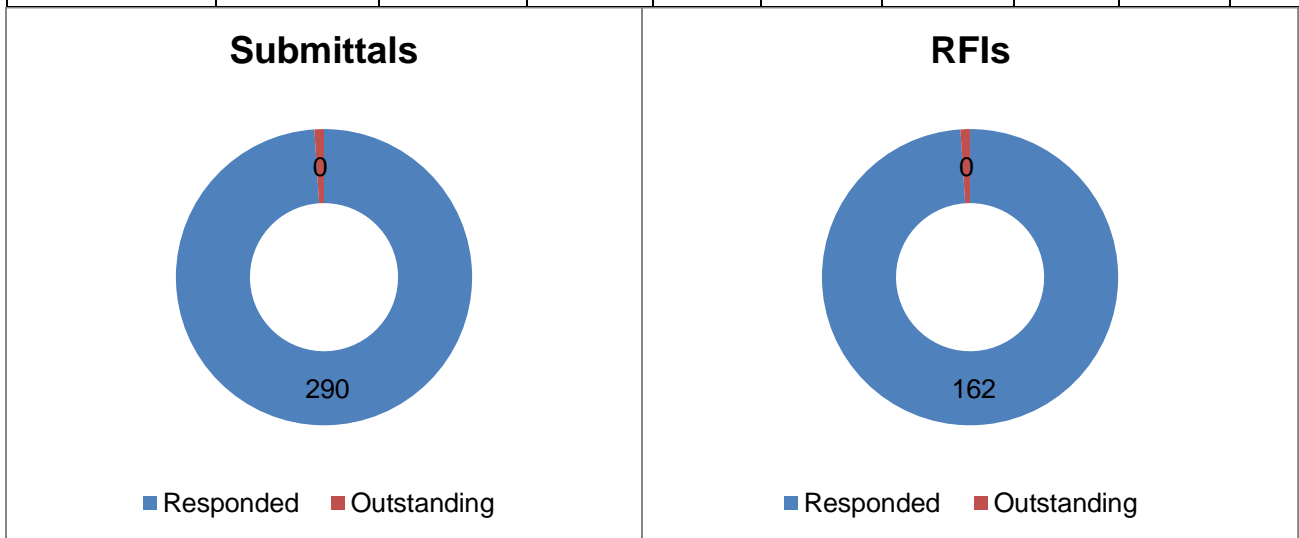
1. Installing pedestrian/bicycle detection loops and warning flashers on the bridge at the ramp to eastbound Whitehurst Freeway.
2. Cleaning and painting the existing steel pedestrian railing on the bridge.
3. Removing the concrete bollards from the east sidewalk at the east ramp exit.
4. Removing and installing new streetlight poles on the bridge.
5. Removing and resetting a portion of the precast concrete traffic barrier on the bridge.
6. Repairing the precast concrete traffic barrier and grout pads and the northwest concrete traffic barrier end post.
7. Strengthening the deck overhangs with carbon fiber reinforced polymer bars.
8. Repairing the concrete wearing surface on the bridge.
9. Repairing grout pockets at the post-tensioned deck hold down bolts.
10. Replacing the non-armored expansion joint seal (B-0007 and East Ramp).
11. Replacing the armored expansion joint seals (B-0007 and East Ramp).
12. Overlaying the right lanes (inbound and outbound directions) on the bridge with a high molecular weight methacrylate resin (HMWM) overlay; milling and overlaying the Rosslyn approach structure with a very high early strength latex-modified concrete (LMC-VE).
13. Cleaning debris from all bridge deck drainage scuppers and pier chambers and removing and replacing the bridge deck drainage downspout.
14. Rehabilitating the support for a 30-inch Washington Aqueduct water main on the bridge.
15. Repairing portions of the concrete encasement and the reinforced concrete floor beams; cleaning and painting the exposed end of the steel floor beams.
16. Replacing failed concrete deck pedestals and replacing portions of the utility gallery floor slabs full depth.
17. Repairing portions of the concrete superstructure, including but not limited to the following: deck soffit, deck pedestals, spandrel arches, spandrel columns, main arches, diaphragm walls, deck slab, and arch struts.
18. Repairing portions of the concrete substructure, including the piers, abutments, abutment chambers, and wing walls and encapsulating the pier footings with fiber reinforced polymer jackets at the waterline.
19. Removing and replacing the fixed steel access ladder at North abutment and installing a new fixed steel access ladder at the South abutment.
20. Removing and replacing a portion of chain link fencing (bridge access deterrent) on the main arches.
21. Cleaning the bridge fascia with pressurized water and applying an anti-graffiti treatment to portions of the piers.
22. Removing and applying new pavement markings (B-0007 and East Ramp).
23. Maintenance of pedestrian and vehicular traffic during construction of the project, including temporary lane and sidewalk closures necessary to perform the work.

2. STATUS OF PROJECT FUNDING AND SCHEDULE

Contractor NTP Date:	9/27/2016	Consultant NTP Date:	6/16/2016
Contractor Contract Expiration Date:	working under Liquidated Damages	Consultant Contract Expiration Date:	6/15/2017
Weekly Report End Date:	7/27/2019	Consultant Contract Mod Expiration Date:	12/31/2019

	Total Value	Planned % DBE	Previous Applications for Payment	Current Application	Complete to Date					
					Previous + Current Applications	\$ Remaining in Contract	To Date DBE Utilisation		% of Budget Used	
							Per Total Earnings To Date	Per Planned Total Budget		
Contractor										
Technopref	\$14,471,254.00		\$16,914,950.81	\$844,470.93	\$17,759,421.74	(\$3,288,167.74)				122.72%
Handon	\$1,012,987.78	7.00%	\$475,212.20	\$0.00	\$475,212.20	\$537,775.58	\$475,212.20	\$1,012,987.78		46.91%
Technopref Current Contract Total	\$18,071,294.44		\$16,914,950.81	\$844,470.93	\$17,759,421.74	\$311,872.70		\$0.00		98.27%
CONTRACTOR'S DBE GOAL		7.00%								

Construction Management										
AECOM (Prime)	\$3,589,180.54	62.96%	\$3,585,062.47	\$123,670.61	\$3,708,733.08	-\$119,552.54	\$3,708,733.08	\$3,589,180.54		65.06%
CSMI	\$259,312.34	4.55%	\$138,642.10	\$0.00	\$138,642.10	\$120,670.24	\$138,642.10	\$259,312.34		2.43%
CKI	\$1,399,053.29	24.54%	\$1,297,268.16	\$25,601.43	\$1,322,869.59	\$76,183.70	\$1,322,869.59	\$1,399,053.29		23.21%
OC&L	\$365,219.00	6.41%	\$337,408.77	\$11,897.30	\$349,306.07	\$15,912.93	\$349,306.07	\$365,219.00		6.13%
Roenker Bates Group	\$10,000.00	0.18%	\$9,587.50	\$0.00	\$9,587.50	\$412.50	\$9,587.50	\$10,000.00		0.17%
Direct expenses	\$77,764.22	1.36%	\$8,404.13	\$0.00	\$8,404.13	\$69,360.09	\$8,404.13	\$77,764.22		0.15%
CM-Total	\$5,700,529.39	100.00%	\$5,367,969.00	\$161,169.34	\$5,529,138.34	\$171,391.05				96.99%



Number of Submittals to Date	Number of RFIs to Date	Number of Change Orders to Date	Number of Letters Received to Date	Invoice # - Payment by DDOT to AECOM	Invoice # - Payment by DDOT to Technopref
290	162	8	92	#33	#35
Number of Submittals Responded To	Number of RFIs Responded To	Number of Change Orders Executed to Date	Number of Letters Responded To	Submitted AECOM Invoice #	Submitted Technopref Invoice #
290	162	8	91	#35	#35
Number of Submittals Outstanding	Number of RFIs Outstanding	Percent Completed from Resource Loaded Schedule	Number of Letters Outstanding	Technopref Original Contract Amount:	
0	0	98.27%	1	\$14,471,254.00	

3. STATUS OF CONSTRUCTION / PROGRESS SUMMARY

Progress Summary:

1. Containment installation and concrete repair work is still in progress at Spans E, and H. (3 shifts a day from 7am to 3:30 pm, 3pm to 11pm and from 7pm to 5am)
2. CM inspection team checked Navigation lights and it was functional.
3. Contractor continued demobilization and dismantling scaffold system.
4. Contractor continued installing the security fences.
5. Contractor continued to work without project superintendent on duty, and also reducing their work-force.
6. Contractor continued to work on past deficiency lists.

1. CM Community Outreach Activities

- Communications team continued to address MOT need for press releases.

4. ISSUES / ACTION ITEMS

- Ongoing Issues / Items:

- NPS was notified about Technopref's work schedule for fixing the damaged Towpath of the C & O Canal south side trail; which renovation started this week and finished this week. NPS is yet to review and accept work.
- **Action Items:** For final punch list, contractor has been notified about the access provision for reviewing work done between the bridge bay 2 & 5 for final inspections prior to handing over the final punch list.

- New Issues / Items:

- Navigational light on Pier 3 West side was observed not working again. Contractor replaced another bulb, also Pier 2 West side was observed not working, but contractor fixed it.
- Alexander Hervey of DDOT is holding the functionality of the Pedestrian Camera connection.

5. MEETINGS / PROJECT COORDINATION

- No meeting this week.

6. DAILY WORK PERFORMED

Sunday 07/21/19

1. No Overnight work at the Bridge.

Monday 07/22/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some equipment demobilization. Contractor provided support for their subcontractor's activities. At the staging area contractor continued core drilling of shotcrete test panel for sample to send to the DDOT lab for compressive strength test. Contractor continued removal of temporary support at the North Abutment Bearing Replacement work. Contractor provided 280-lbs ice to reduce the water temperature and reading ranging 61°F to 80°F for the day prior to mixing. No overnight shift activities.
2. Wards and Associates continued to place shotcrete at the soffits of the rib arch of span E by the barge.
3. Suburban (Sub) was on site and continued security fence installation at Rosslyn Abutment.

Tuesday 07/23/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some equipment demobilization, worked on some deficiency list and provided support for their subcontractor's activities. At the staging area contractor continued core drilling of shotcrete test panel for sample to send to the DDOT lab for compressive strength test. Contractor continued removal of temporary support at the North Abutment Bearing Replacement work. Also, provided support for their subcontractors on site. During the overnight shift activities, Technopref continued to build containment for removal and pour back at span E, H arch rib soffits, and at pier #3, contractor continued with concrete removal at the delaminated marked area by saw cutting the delaminated area and removal of delaminated concrete, checking the existing re-bar if applicable within the opened delaminated area to be replaced or not. Also, CM-staff sounded the adequacy of removed area, activities were done with the man-lift.
2. Wards and Associates continued to place shotcrete at the soffits of the rib arch of span E by the barge, but due to high temperature; all concrete activities were stopped.

Wednesday 07/24/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization, Technopref continued to work on deficiency list and core some cylinders for deposit to DDOT lab tests. Contractor continued to provide water and land logistic support for their subcontractors on site. Contractor started to work on C&O Canal towpath rehabilitation placing and grading soil to restore the damaged rut areas on the path per NPS requirements. During the overnight shift activities, Technopref continued to build containment for removal and pour back at span H arch rib soffits, continued with concrete removal at delaminated marked area by saw cutting the delaminated area and removal of delaminated concrete, checking the existing re-bar if applicable within the opened delaminated area to be replaced, spliced or not.
2. Wards and Associates continued to place shotcrete at the soffits of the rib arch at span E by the barge.
3. Brocks (Sub) was on site and continued dismantling scaffold at North Abutment.

Thursday 07/25/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization, worked on some deficiency list and provided support for their subcontractor's activities. At the staging area contractor continued core drilling of shotcrete test panel for sample to send to the DDOT lab for compressive strength test. Contractor continued removal of temporary support at the North Abutment Bearing Replacement work. Also, provided support for their subcontractors on site. Contractor continued to work on C&O Canal towpath rehabilitation placing and grading soil to restore the damaged rut areas on the path per NPS requirements. Near Rosslyn Abutment on span H, row E, contractor demoed and prep a section marked for removal. During the overnight shift activities, Technopref continued to build containment for removal and pour back at span E, H arch rib soffits, and at pier #3, contractor continued with concrete removal at the delaminated marked area by saw cutting the delaminated area and removal of delaminated concrete, checking the existing re-bar if applicable within the opened delaminated area to be replaced or not. Also, CM-Staff sounded the adequacy of removed area, activities were done with the man-lift.
2. Wards and Associates continued to place shotcrete at the soffits of the rib arch of span E by the barge.
3. Suburban (Sub) was on site and continued security fence installation at Rosslyn Abutment.
4. Brocks (Sub) was on site and continued dismantling scaffold and removal from site.

Friday 07/26/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization. Contractor continued to provided support for their subcontractors on site. Contractor continued to work on C&O Canal towpath rehabilitation placing and grading soil to restore the damaged rut areas on the path per NPS requirements. During the overnight shift activities, Technopref continued to build containment for removal and pour back at span E, H arch rib soffits, and continued with concrete removal at the delaminated marked area by saw cutting the delaminated area and removal of delaminated concrete, checking the existing re-bar if applicable within the opened delaminated area to be replaced or not. Also, CM-Staff sounded the adequacy of removed area, activities were done with the man-lift.
2. Wards and Associates continued to place shotcrete at the soffits of the arch rib of span E by the barge.
3. Suburban (Sub) was on site and continued security fence installation at Rosslyn Abutment.
4. Brocks (Sub) was on site demobilizing, parking and transporting dismantled scaffold at the site on North Abutment.

Saturday 07/27/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization. Contractor continued to provide support for their subcontractors on site. Contractor also continued power wash activities of the East Ramp within the staging area to clean off the shotcrete residue within the east ramp piers, and on the bridge deck on top of the east ramp.
2. Wards and Associates continued to place shotcrete at the soffits of the arch rib of span E near pier #3 by the barge.

7. INSPECTION & MATERIAL TESTS PERFORMED

- Performed sounding for concrete demo.

Date	Location	Shift
7/23/2019	Arch Rib soffits Span H	Overnight

- Tested bag-mixed concrete and obtained the following results:

Date	Location	Material	Ambient Temp °F	Concrete Temp °F	Slump (Inches)	Air Content %	Concrete Specimens
7/22/2019	Span E Arch rib soffits	USCP Gunitite 7041	88	85	1	6.5	Shotcrete Test Panels
7/23/2019	Span E Arch rib soffits	USCP Gunitite 7041	80	76	4-1/2	7	Shotcrete Test Panels
7/24/2019	Span E Arch rib soffits	USCP Gunitite 7041	75	75	1	7	Shotcrete Test Panels
7/25/2019	Span E Arch rib soffits	USCP Gunitite 7041	85	76	1	6.5	Shotcrete Test Panels
7/26/2019	Span E Arch rib soffits	USCP Gunitite 7041	85	76	1	6.5	Shotcrete Test Panels
7/27/2019	Span E Arch rib soffits	USCP Gunitite 7041	86	78	2-1/4	8	Shotcrete Test Panels

8. RFIs / SUBMITTALS

- **Requests for Information:**
Except as noted below, there are no current unresolved/uncompleted RFIs or Submittals.
- **Submittals:**
 - No outstanding
- **RFIs:**
 - No outstanding

9. CHANGE ORDERS/TASK ORDERS

- Change Order # 1 was executed on June 12, 2017.
- Change Order # 2 was executed on November 13, 2017.
- Change Order # 3 was executed on August 17, 2017.
- Change Order # 4 was executed on February 22, 2018.
- Change Order # 5 was executed on May 07, 2018.
- Change Order # 6 was executed on June 15, 2018.
- Change Order # 7 was executed on April 17, 2019.

10. DBE or CBE PARTICIPATION SUMMARIES

- **AECOM DBE Activity:**
 - o CSMI (subcontractor for AECOM) activity on the project is to provide project public outreach.
 - o CKI (subcontractor for AECOM) activity on the project is aide to construction management and inspection services.

- **Technopref DBE Activity:**
 - o 3D Building supply activity on the project is to supply all the concrete materials

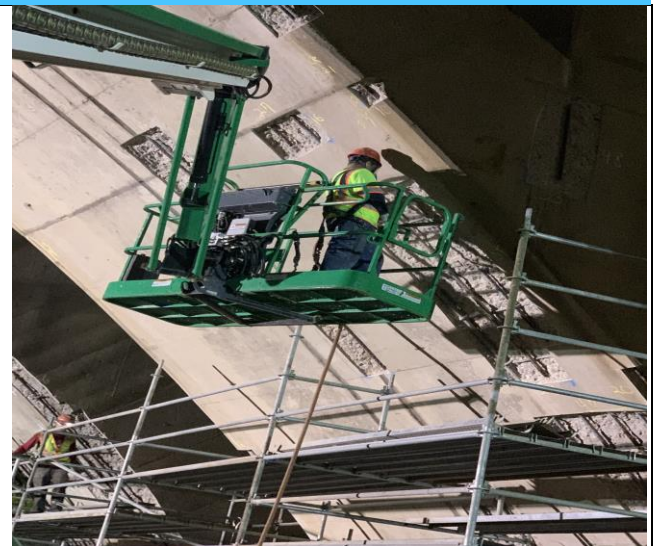
11. ACCIDENTS / INCIDENTS

- No incidents

12. PHOTOS OF WORK PERFORMED THIS PERIOD



Technopref placing ice into water tank for shotcrete mixing to reduce conc temperature



Technopref at Overnight operation, demolishing marked delaminated concrete at Span H



Technopref arranging scaffolding stockpiles & plywood in the staging area for demobilizing



Technopref core drilling shotcrete test panel for sample for Lab on the staging area



Technopref building containment for demolished marked delaminated concrete at Span H



Newly wire brushed patch ready for painting



Technopref at East Ramp Bent 16 to 12 continued power washing to clean shotcrete residue on patches



Ward & Assoc wet shotcrete contained patch at Span E Bay 2 Diaphragm close to Pier 3