

**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)**

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**CONSTRUCTION MANAGER'S**  
**WEEKLY PROGRESS REPORT**  
**From 07/14/2019 to 07/20/2019**

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**Project Website: [www.keybridgeproject.com](http://www.keybridgeproject.com)**



## 1. EXECUTIVE SUMMARY

### Project Description:

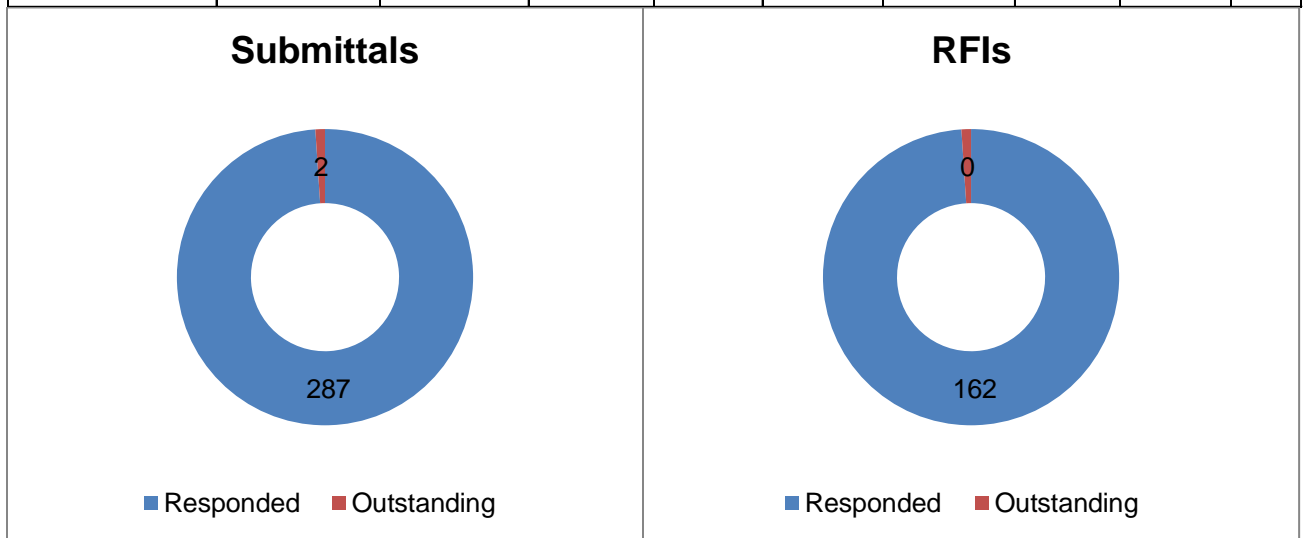
The AECOM Construction Management and Inspection team is providing construction and inspection services for the Rehabilitation of the Francis Scott Key Bridge over the Potomac River (Bridge No. 0007). Francis Scott Key Bridge, built in 1929, is a historic 1,781-foot long reinforced concrete, open-spandrel 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<br>working under<br>Contractor Contract Expiration Date: Liquidated Damages<br>Weekly Report End Date: 7/20/2019 |                 | Consultant NTP Date: 6/16/2016<br>Consultant Contract Expiration Date: 6/15/2017<br>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 |                  |
| <b>Contractor</b>   |                 |   |                                   |                     |                                 |                          |                            |                          |                  |
| 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   |                 |   |                                   |                     |                                 |                          |                            |                          |                  |
| <b>Total</b>  | \$18,071,294.44 |   | \$16,914,950.81                   | \$844,470.93        | \$17,759,421.74                 | \$311,872.70             |                            | \$0.00                   | 98.27%           |
| <b>CONTRACTOR'S DBE GOAL</b>  |                 | <b>7.00%</b>  |                                   |                     |                                 |                          |                            |                          |                  |
| <b>Construction Management</b>  |                 |   |                                   |                     |                                 |                          |                            |                          |                  |
| 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%            |
| <b>CM-Total</b>   | \$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   | 88                                 | #30                                  | #34                                       |
| 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 #            |
| 288                               | 162                         | 8   | 49                                 | #33                                  | #34                                       |
| Number of Submittals Outstanding  | Number of RFIs Outstanding  | Percent Completed from Resource Loaded Schedule | Number of Letters Outstanding      | Technopref Original Contract Amount: |   |
| 2                                 | 0                           | 98.27%  | 1                                  | \$14,471,254.00                      |   |

## 3. STATUS OF CONSTRUCTION / PROGRESS SUMMARY

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**Progress Summary:**

1. Concrete repair work is still in progress at Spans D, E, and G. North Abutment. (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 dismantling scaffold system at North Abutment.
4. Contractor continued installing the security fences at Rosslyn Abutment.
5. Contractor released the current project superintendent of his duties without replacement, and also reduced their workforce into half.
6. Contractor began dismantling the temporary support used for bearing repairing at North Abutment.

**1. CM Community Outreach Activities**

- Communications team will continue to develop relationships with key businesses near the bridge that can help us distribute project information to their customers; and continued to address MOT need for press releases.

#### 4. ISSUES / ACTION ITEMS

**- Ongoing Issues / Items:**

- Technopref has been notified with the issue of transporting scaffolding materials with the SKYTRAK at the C & O Canal which while in process resulted in damaging C & O Canal South side trail leaving tire tracks that will need repair. NPS, Technopref and DDOT met to discuss the issue. Technopref claimed responsibility for the damage and requested to fix the damage after finishing with work over C&O Canal. NPS agreed and requested that the work with manlift would only be happening on night shift from 7Pm to 5am. NPS also requested to be notified of the work schedule.
- **Action Items:** Contractor to provide access up the air between the bridge arched 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. Contractor replaced the bulb, but it still not coming on.
- Alexander Hervey of DDOT is holding the functionality of the Pedestrian Camera connection.

#### 5. MEETINGS / PROJECT COORDINATION

- Progress meeting #117.

## 6. DAILY WORK PERFORMED

### Sunday 07/14/19

1. Overnight work continued at span H (GW-Parkway) for saw cut operation, concrete demolition, removal and preparation activities. On the deck, repair for some deficiency line stripping work preparation. Grinding of excessive crack injection repair materials at east ramp section of the Bridge.

### Monday 07/15/19

1. Technopref (General Contractor) continued miscellaneous work on site which includes site cleaning and some equipment demobilization, core some cylinders and deposit to the lab for tests. At span D, contractor continued replacing the 30-inch water main support work. Contractor set up forms at North Abutment for minor concrete repair using form and pour method. Also, provided support for their subcontractors on site. During the overnight shift activities, Technopref built 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. Additionally, contractor continued with grinding of excessive crack injection repair materials at East Ramp.
2. Wards and Associates returned to work today but did not perform any shotcrete because Technopref was not ready for them due to lack of logistics like barges and containment in place.
3. Suburban (Sub) was on site and continued security fence installation at South Abutment.

### Tuesday 07/16/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some equipment demobilization, set up forms at North Abutment for minor concrete repair using form and pour method, worked on some deficiency list fixing the pedestrian railing minor touch-ups on the deck. 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 H arch rib soffits, 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. Also, CM-Staff sounded the span H fascia of the Arches for delaminated areas were also part of the overnight activity, which was 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.
3. Suburban (Sub) was on site and continued security fence installation at Rosslyn Abutment.

### Wednesday 07/17/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization, set up forms at North Abutment for minor concrete repair using form and pour method. Technopref also worked on some deficiency list fixing the pedestrian railing minor touch-ups on the deck, core some cylinders and deposit to the lab for tests. 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 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. Also, CM-Staff sounded span H and marked delaminated area of the arch rib soffits which was 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 South Abutment.
4. Brocks (Sub) was on site and continued dismantling scaffold at North Abutment.

#### Thursday 07/18/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization, forms removal at North Abutment used for NA-Bearing replacement PC-#7 (additional work). As of today (07/18/2019) Technopref does not have a superintendent for the project. However, work continued. At Span D, Bay 2, contractor removed existing DC Water 30" main Support Beam upon completion of installing a replacement, worked on some cracks fill deficiency list, core some cylinders for lab deposit. 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 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 applicably affected by rust to be replaced or not within the opened delaminated area. Also, CM-Staff checked demoed area for approvals at span H delaminated area of the rib arch soffits which was done with 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 at North Abutment while installing scaffold at bays 2 and 5 at North Abutment.

#### Friday 07/19/19

1. Technopref (General Contractor) continued miscellaneous work on site which included site cleaning and some scaffolding equipment demobilization, forms removal at North Abutment used for NA-Bearing replacement PC-#7 (additional work). Approval of some cracks fill deficiency list, core some cylinders for lab deposit, 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 arch rib soffits.
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 07/20/19

1. Technopref (General Contractor) was on-site and continued minimal miscellaneous cleaning activities due to weather condition, no sub-contractors reported today.

## 7. INSPECTION & MATERIAL TESTS PERFORMED

- Performed sounding for concrete demo.

| Date                                | Location  | Shift                               |
|-------------------------------------|---|-------------------------------------|
| 7/15/2019<br>7/16/2019<br>7/17/2019 | Arch Rib soffits Span H<br>Fascia Span H<br>Fascia Span H | Overnight<br>Overnight<br>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  |
|-------------------------------------|---|--|-----------------|------------------|------------------------|-----------------|---|
| 7/17/2019<br>7/18/2019<br>7/19/2019 | Span G Arch rib soffits<br>Span G Arch rib soffits<br>Span G Arch rib soffits | USCP Gunitite 7041<br>USCP Gunitite 7041<br>USCP Gunitite 7041 | 81<br>81<br>82  | 88<br>83<br>81   | 1-3/4<br>2-1/4<br>2-14 | 8<br>8.2<br>8.2 | Shotcrete Test Panels<br>Shotcrete Test Panels<br>Shotcrete Test Panels |

## 8. RFIs / SUBMITTALS

- **Requests for Information:**  
Except as noted below, there are no current unresolved/uncompleted RFIs or Submittals.
- **Submittals:**
  - SUB-287B - DOEE - Fascia Cleaning Water Collecting and Sampling Plan
    - Under review by office. CM is holding submittal until test results is received from Technopref in order to be reviewed by DOEE.
  - SUB-288A - NPS - C& O Canal Under the Whitehurst Bridge Touch up Material and Means & Methods
    - Under review by JMT.
  - SUB- 289 - Rosslyn Approach - Door Replacement - Shop Drawings
    - Under review by JMT.
    - Request to know the status of the old door – waiting for contractor's response.
  - SUB- 290A – C & O Canal Towpath Repairs – Gravel material and repair narrative/ with schedule
    - Under review by NPS.

- Returned approval to Technopref
- 
- **RFIs:**
  - RFI 162A – Drainage System South Abutment Chamber – unable to open drain, claimed that all avenues had been exhausted
    - CM requested to inspect action used and denied inspecting any of the said exhausted method.
  - -

## 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:**
  - CSMI (subcontractor for AECOM) activity on the project is to provide project public outreach.
  - CKI (subcontractor for AECOM) activity on the project is aide to construction management and inspection services.
- **Technopref DBE Activity:**
  - 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 007 with Manitou spudded at Shore with Manitou down due to Electrical Problem



Technopref 007 with Manitou spudded at Shore with Manitou down due to Electrical Problem



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



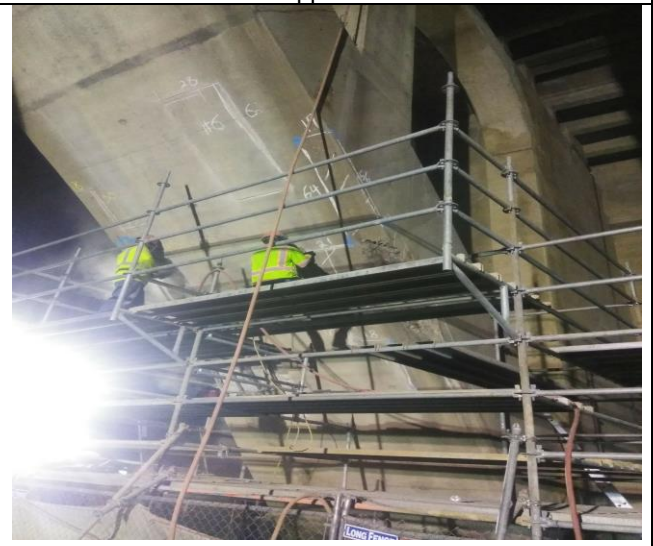
Technopref in West Gallery at Span D in process replacing DC Water 30 inch Main Support Beam



Technopref in West Gallery at Span D in process replacing DC Water 30 inch Main Support Beam



MOT setup at GWP/Rosslynduring overnight work



Technopref demolishing marked delaminated concrete at span H