

COMPREHENSIVE MONTHLY REPORT

August 2017

Dulles Corridor Metrorail Project Phase 2 (Wiehle Avenue Station to Ashburn Station)

**Metropolitan Washington Airports Authority
Washington, DC**

October 5, 2017

PMOC Contract Number: DTFT60-14-D-00011

Task Order Number: 005, **Project Number:** DC-27-5331, **Work Order No.** 02

OPs Referenced: 01, 25

Hill International, Inc.

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PMOC Lead: Mathew E. Trzepacz, [REDACTED]

Length of Time PMOC Assigned to Project: 3.5 years

Length of Time PMOC Lead Assigned to Project: 3.5 years

EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *September 13, 2017* to conduct the Monthly Progress Meetings for work performed in *August 2017* on Phase 1 and Phase 2 of the Locally Preferred Alternative (LPA) for the Dulles Corridor Metrorail Project. The Phase 2 project extends from the Wiehle Avenue Station in Fairfax County through Dulles International Airport to the Route 772 Station in Loudoun County. The PMOC plans to conduct future PMOC monthly progress meetings during the second week of each month.

1. Project Description

Phase 2 of the Project is an extension of Washington Metropolitan Area Transportation Authority (WMATA) heavy rail system and will provide 11.4 route miles of new track from the interim terminus at Wiehle-Reston East Station through Washington Dulles International Airport ("Dulles Airport") to a terminus in eastern Loudoun County. Phase 2 includes six new stations: Reston Town Center, Herndon, Innovation Center, Dulles Airport, Loudoun Gateway (Route 606) and Ashburn (Route 772) Stations. Phase 2 also includes a maintenance and storage yard facility at Dulles Airport, wayside facilities (including traction power substations, tiebreaker stations, and stormwater management ponds along the alignment), 5 new parking facilities with a total of 8,900 parking spaces, and sixty-four new railcars. The current Phase 2 project budget is \$2,778,235,564 exclusive of parking facilities and finance costs.

2. Project Status

MWAA announced on April 27, 2015 that they anticipated a delay of thirteen months to the Project. Change Order 066 granted the Package A Contractor 396 days of excusable delay which makes the revised Scheduled Substantial Completion Date (SSCD) August 7, 2019. *The latest Project Master Schedule through July 31, 2017 continues to indicate the contractual SSCD of August 7, 2019. The Package A Contractor's latest schedule through July 31, 2017, was "Accepted as Noted" in good faith by MWAA pending CRC's prior commitment to a timely resolution of key schedule issues and qualifications provided by MWAA. The July update schedule shows completion by the contractual substantial completion date of August 7, 2019. MWAA's Project Master Schedule has indicated the Revenue Service Date (RSD) is anticipated to be February 4, 2020 based on CRC's approved schedule update.*

MWAA continues with close out activities for Phase 1. The punch lists from WMATA and Fairfax County have been closed out. VDOT and MWAA continue to work toward resolution of the VDOT Punch List and met with DTP on December 14, 2016 to present the work that DTP is to complete. DTP accepted responsibility for about 30% of the listed items. [REDACTED]

[REDACTED] Bechtel has agreed to perform only a portion of the reinforced concrete pipe repairs. Whatever work that DTP does not complete will be performed by an MWAA contractor. [REDACTED]

MWAA reports the Task Order for the design of Old Meadow Road was negotiated and cost of the final design is \$382,737. The Notice to Proceed was issued on March 20, 2017. ROW/Utility coordination meetings have been held, but some utility company responses have been slow. Old Meadow Road construction is estimated to be completed in the second quarter of 2018. The closeout of the FFGA is expected to occur in several years following payment of final Project costs with regard to the first 64 rail cars which is expected to extend until 2021.

3. Core Accountability Information

TIFIA Core Accountability Items			
Project Status:		Original at TIFIA:	Current Estimate (EAC):
Cost	Cost Estimate	\$2,778,235,564	\$2,778,235,564
Contingency	Unallocated Contingency	\$551,451,179	\$376,592,889
	Total Contingency (allocated plus Unallocated)	\$551,451,179	\$376,592,889
Schedule	Revenue Service Date	1/31/19	3/31/2020
		Amount (\$)	Percent (of total)
Planned Value to Date	Total budgeted cost of work scheduled to date <i>(if available)</i>	\$1,864,944,774	78%
Earned Value to Date	Budgeted cost of work completed to date, i.e. actual total value of work earned or done <i>(if available)</i>	\$1,482,779,128	62%
Actual Cost	Total cost of work completed to date <i>(actual total)</i>	\$1,376,360,400	57%
Contracts		Amount (\$)	Percent
	Total contracts awarded to date	\$2,220,487,122	95%
	Total construction contract awarded to date (construction contracts only)	\$1,623,672,848	69%
	Physical construction work completed (amount of construction contract work actually completed)	\$1,015,988,303	63%
Major Issues	Status	Comments / Action / Planned Action	
1	SWM changes to Package A associated with 13 month delay.	Construction cost yet to be negotiated.	
2	Package B Design Delays, thru June 1, 2016	Global settlement 128 days. Cost yet to be finalized	
3	Airports Authority's Extended Management Cost (13 month delay)	Cost yet to be finalized	
4	Communications System Scope of Work – Fire Alarm and Intrusion Alarm systems separation.	Risk realized. Cost yet to be finalized.	
5	Coordination of Package B and Package A interface	Package A has forecasted interface supply dates up to two months behind Package B's need dates.	
Date of Next Quarterly Meeting (if known):		November 13, 2017	

- Contractor's July Schedule Update brought the SSCD to the contractual SSCD and the MWAA forecast for RSD is February 4, 2020.

4. Major Problems/Issues

1. Stormwater/Early Design Changes in Package A have resulted in a thirteen month delay to the Project's construction substantial completion date to August 7, 2019.
2. The additional construction costs related to the Stormwater/Early Design Changes and attendant increased overhead costs have yet to be finalized. MWAA reported the thirteen month delay claim was settled [REDACTED].
3. The Package A contractor has encountered harder rock than anticipated at some locations which has forced the contractor to go to Directional Boring or hand mining rather than using a Jack and Bore Procedure. The contractor has redesigned the utility connections at stations to mitigate the impact.
4. The delays experienced by the Package A Contractor could have a negative schedule impact on the Package B Contractor who will have to tie-in the Maintenance Yard tracks and systems to the mainline. At this time, the Package A Contractor estimates providing some systems interface work *two* months later than the Package B contractor needs them. MWAA continues to work with the contractors for Packages A and B to mitigate any impacts at the interface points.
5. A major open item in the close out of Phase 1 is the Virginia Department of Transportation (VDOT) punch list. Although Phase 1 went into revenue service on July 26, 2014, VDOT did not submit their final punch list until May 16, 2016. VDOT offered to perform the punch list work and developed a cost proposal in the amount of \$36.8 million to perform the work.

[REDACTED] Meetings between the two parties have made progress in reaching a mutually agreeable resolution. VDOT and MWAA met with DTP on December 14, 2016 to present their scope of work that DTP needs to rectify. MWAA met with DTP on March 17, 2017 to discuss the deficiencies MWAA claims are DTP's responsibility. [REDACTED]

[REDACTED] Meetings between the two parties continue in the hope of resolution. [REDACTED]

[REDACTED] The additional videotaping of the piping has been completed and the results were reviewed by MWAA and VDOT. *However, some of the underdrains could not be videotaped and will have to be assessed by fish taping. MWAA has developed the scope of work for the fish taping which is under review by VDOT.*

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MAIN REPORT

A. Project Status

Design Status

Final design and construction is being performed under DB contracts for Package A as well as for Package B. The designs of both Package A and Package B are 100% complete. Fairfax and Loudoun Counties are managing the final design of the parking facilities (formerly Package C). The Counties confirmed their commitment to deliver those elements as a condition precedent to their TIFIA loans.

Construction – Package A

As of January 1, 2017, MWAA reported all aerial substructure and support work had been completed. *As of September 1, 2017, all the deck spans have been poured. Foundation drilling crews continue drilling supports for the stations' pedestrian bridges. Crews continue setting parapet walls along the elevated guideway as the concrete decks reached strength.*

Construction of track retaining walls and foundations continues in the DIAAH median and at the Phase 1 tie-in. Contractor continues drainage work and track wall construction in the DIAAH median to close in the at-grade guideway in preparation for ballast and at-grade track work in the future at the Wiehle Station tie-in. Modification work continues along the DIAAH and Dulles Toll Road (DTR) to enable the construction of the Innovation, Herndon and Reston Stations. Greenway median abutment and retaining wall work continued and backfill began inside the retaining walls. The contractor completed the directional boring for the 34.5kV ducts under the roadways. Hand mining was completed in areas of dense rock for the installation of drainage, utilities and systems required for the stations and operating systems is nearing completion. The Contractor continues the relocation of the DTR south of the Herndon Station for accessing the kiss and ride area. Foundations and building slabs are being installed for the traction power substations and tie-breaker stations along with screen wall foundations.

Comcast, AT&T, Verizon and Dominion Virginia Power (DVP) lines have been relocated to permit the construction of the north pavilions at the Ashburn and Loudoun Gateway Stations. Relocation of communication and DVP lines continued to allow access to the west end of the existing Herndon Parking Garage from Sunrise Boulevard. Work for the 34.5 kV Traction Power Feeder continues with the installation of ductbank and manholes in the Greenway median west of the abutments. TPSS #18, #19 and #20 are fed by this ductbank. Work continues installing ductbank and manholes through the Airport property towards the west. Work continues to tie-in these TPSS locations to the future track cable trough. The installation of 34.5 kV cable and splicing continues west through Dulles Airport and into the Yard leads.

Precast grouting and detailing continues at the Innovation Station. Skylight framing in the vault roof began and the roofer continues to dry in the station equipment rooms. Electrical rough-in and plumbing work also continues in the station. Construction continues at the North and South Pavilions. Construction of the Pedestrian Bridge Pier continues along with assembly of the Pedestrian Bridge at Innovation Station. Structural steel detailing, painting and decking for the Herndon Station vault roof continues. Precast detailing and grouting continues at Herndon Station. Construction of the South Pavilion continues as does the pedestrian bridge assembly,

erection and painting. The contractor continues precast detailing and structural steel detailing and decking at Reston Station. North pavilion construction continued while pedestrian bridges were being assembled and painted. Grading and foundation work also began for the south pavilion of Reston Station. Station precast and structural steel was erected at Dulles Station. Station mechanical, electrical and plumbing rough-in work also continues. Roofers also continue to dry in equipment rooms. Walk Back Tunnel tie-in work also continues at the Dulles Station. Station precast and vault roof erection continues along with mechanical, electrical and plumbing rough-in at the Loudoun Gateway Station. Station foundation, columns and support wall work continues at the Ashburn Station and the erection of precast panels continues. Sections of the pedestrian bridge have arrived for field assembly.

Concrete plinth construction continues in the yard leads and on the west side of the Dulles Airport Station on the aerial guideway with the installation of running and contact rail. Aerial guideway switch work also continues. Rail and concrete ties were installed along the at-grade guideway in the DIAAH median. Electricians continue installing conduit from TPSS and TBS locations to the guideway. Overhead conduit and cable trays were installed for TPSS #16 in the Dulles Airport Station. Ground grids were installed in the traction power substation and tie-breaker station sites. TPSS #19, TBS #7 and TBS #10 were delivered and assembled on the support slabs. Electricians also started installing cable trays up columns to the aerial guideway from the TPSS and TBS locations.

Construction – Package B

As of the end of August, work is continuing to progress on all five major buildings in the Maintenance Facility. During the month, Hensel Phelps Construction Company (HPCC) continued earthwork. The installation of subgrade continued for the loop tracks and perimeter roads at the western and southern ends of the site. The installation of utilities, ductbank, storm water lines, sanitary lines and water lines continued during August. Trackwork on the lay-up yard continued during August with ballast dumping. Sub-ballast work, rail welding and the installation of special trackwork continued on the lead track at the southwest end of the site toward the Train Wash Facility (TWF).

The installation of the precast panels remains at 95% in the Service and Inspection Building (SIB). HPCC continued working on the installation of equipment foundations and electrical underground on the first floor of the SIB. Rebar installation for the first floor slab continued, and concrete was placed at the turntables. Four truck lifts were also installed. Concrete masonry unit work was completed in the basement area and progressed to 80% completion on the first floor. Painting in the basement of the SIB continued. Equipment pads were also placed in the basement. Window frame and glazing installation continued as well as electrical and HVAC rough-in work. Drywall installation progressed to 80% completion on the upper mezzanine. Main roofing and roof drain work continues.

Precast panel installation was completed in the Maintenance of Way Building (MWB). Roofing work continues. Both window frame installation and electrical rough-in installation began in August. One section of the first floor slab on grade was placed, and other sections are being prepared for concrete placement. Wall framing began on the upper level of the MWB.

Backfill for the slab on grade started at the Transportation Police Building. HPCC completed the installation of precast at the Train Wash Facility. The installation of structural steel was completed at the Warehouse Building (WHB), and 90% of the precast panels have been installed.

The metal deck roofing installation is complete at the WHB. Foundations have been placed and the erection of structural steel has started at the Vehicle Storage Facility.

Parking Facilities (formerly Package C)

Fairfax County: Fairfax County is responsible for two parking facilities: one at the Innovation Center Station and one at the Herndon Station. Final design started in fall 2014. Project completion remains scheduled for April 30, 2019 for the Innovation Center Garage and is *April 4, 2019* for the Herndon Station Garage. The project completions were previously revised by Fairfax County to accommodate the announcement by MWAA of a 13 month schedule delay.

The County's Department of Public Works and Environmental Services is the lead county agency for the design and construction of both parking facilities, and will be responsible for the project management and oversight of both projects.

Fairfax County received bids for the Herndon Station Parking Garage and awarded the contract to Manhattan Construction and the NTP was issued on October 31, 2016. The Herndon Garage project cost was revised to \$44.5 million from \$56.7 million based on the winning bid. Fairfax County had a formal groundbreaking for the Herndon Garage on November 30, 2016. The County received the contractor's detailed construction schedule on January 20, 2017. *36% of the work is complete at Herndon Station Garage.*

Bids were opened for the Innovation Center Garage on February 8, 2017 and the contract has been awarded to Manhattan Construction. The notice to proceed was issued on April 3, 2017. *Construction activities are ongoing with construction 8% complete with the caissons/foundation work ongoing at Innovation Center Garage.*

Loudoun County: Loudoun County is responsible for three parking facilities: one at the Route 606 Station and two at the Route 772 Station.

The RFQ for the Ashburn South and Loudoun Gateway Garages was released on September 1, 2016 consistent with the County's schedule. Loudoun County is also coordinating with MWAA and WMATA regarding the garage fare collection. Comstock is on schedule. Loudoun County has received their detailed garage design and is in the process of reviewing it and providing comments.

Route 772 North (Ashburn North) – Loudoun County reported the Final Comprehensive Agreement with Comstock was reached on September 9, 2015. Construction on the Ashburn North Garage began in January 2017 with the anticipated completion in January 2018. *Work continues on the installation of conduits and wiring.* The Ashburn North Garage will be initially used for Comstock's commercial use and will be open for Metrorail users at the start of revenue service.

The Ashburn North Garage is being constructed as a public privatization arrangement between Loudoun County and Comstock, LLP. Comstock was the developer of the Wiehle-Reston Parking Garage at the Phase 1 terminus.

Route 772 South (Ashburn South) and Route 606 (Loudoun Gateway) – On May 2, 2017, the Loudoun County Board of Supervisors authorized the award of the Design Build contract for the design and construction of the Loudoun Gateway Garage (1,965 spaces) and Ashburn South Garage (1,540 spaces) to the S. B. Ballard Construction Company. Contract award was May 4, 2017, and the notice to proceed was issued on June 1, 2017. The substantial completion

date for both garages is May 30, 2019. *MWAA is the Authority Having Jurisdiction (AHJ) for the Ashburn South Garage, and Loudoun County is the AHJ for the Loudoun Gateway Garage.*

Loudoun County will prepare documents for a concessionaire to operate and maintain the Ashburn South and Loudoun Gateway Garages.

Real Estate Acquisition

The status of the Property Acquisitions through August 2017 is shown in the following table.

Property Acquisition Status

Priority	Total Anticipated ¹	PIP ² Complete	Initial Appraisal Complete ³	Revised PIP/ Appraisal Pending ⁴	Offer Made ⁵	Revision in Process	Settlement Reached/ Condemnation Processed ⁶	Acquisition Complete ⁷
1	9	9	9	1	9	0	8	8
2A	22	22 ⁸	21	0	21	0	16	14
2B	20	20 ⁹	20	0	16	0	8	5
Total¹⁰	51	51	50	1	46	0	32	27

Right of Entry (ROE) Status:

- Full Access for Construction has been provided for Parcels 237.
- Limited ROE for construction provided for Parcels 208 and 209 in May 2017, for Parcel 228 in June 2016 **and for Parcels 227 and 226 in August 2017.**
- Full Access to Fairfax County-owned property was provided in 2013 for Parcels 213, 223, 232, 234, and 235.
- Full Access to Loudoun County-owned property was provided in 2016 for Parcels 257 and 258.

¹ Total based on current understanding.

² PIP = Property Identification Plan.

³ Initial appraisals complete for all Priority 1 Parcels 207, 214, 220, 237, 262, 255, 253, and 254. The appraisal for Parcel 258 is not needed since it was dedicated to Loudoun County prior to being made available to the Project. Appraisals complete for Priority 2 Parcels 231, 238, 240, 275, 276, 256, 320, 264, 271, 251, 266, 261, 228, 249, 260/360, 224, 259, 349, 208, 225, 209, 210, 357, 281, 225, 226, 211, 227, 212, 267, 263, 328, 252, 269, 358, **204, 205, and 268.** Appraisals for the dedicated parcels, Parcels 236, 336, 235, and 257 are not needed since the landowner is not subject to condemnation.

⁴ New appraisal required for Parcel 237 due to revised utility relocation and pier construction approach will be deferred at request of landowner to account for actual conditions rather than speculated conditions.

⁵ Offers made for Parcel 207, 220, 214, 238, 240, 237, 231, 262, 254, 275, 276, 253, 256, 320, 264, 271, 251, 266, 261, 228, 249, 255, 260/360, 224, 259, 349, 208, 209, 281, 227, 225, 226, 211 (June 2017), 210, 252, 269, 328 (including revision to Parcel 228), **263, 358, 357, and 205.** Negotiations ongoing for Parcels 237, 208, 209, 281, 225, 226, 227, 211, **228, 328, and 252.** Appraisal and offer revised for Parcel 228. Offers rescinded for Parcels 253 and 271 as the acquisition need for those parcels was eliminated. An offer is not required for Parcels 236, 336, 235, and 257. Condemnation package prepared and filed for Parcels 207, 220, 320, 260/360, 249, and 349 due to impasse.

⁶ Parcels 207, 214, 220, 240, 253, 231, 264, 276, 275, 238, 262, 320, 254, 256, 261, 236, 266, 251, 255, 271, 224, 349, 260/360, 235, 257, 258, **208, 209, and 263** complete. Condemnation packages approved by VDOT for Parcels 249 and 349 in May 2017. Agreement to process dedications for Parcel 336 and 259 were reached in May 2017 and July 2017, respectively.

⁷ Parcels 207 (COT), 214, 220 (COT), 240, 231, 264, 276, 275, 238, 262, 320 (COT), 254, 256, 261, 266, 251, 255, 260/360 (COT), 258, 249 (COT), 349 (COT) and 224. Parcels 253 and 271 offers rescinded; no further action required. Parcels 236, 235, and 257 dedications completed.

⁸ Priority 2A PIP status: PIPs have been completed for all Priority 2A parcels. Parcels 240, 238, 231, 275, 276, 264, 320, 271, 256, 266, 251, 249, 265, 358, 236, 281, 336, 349, 252, 269, 328, and 263 PIPs Accepted by MWAA. Parcel 236 has proceeded and completed as a proffered dedication. Parcel 336 is proceeding as a proffered dedication.

⁹ Priority 2B PIP status: PIPs have been completed for all Priority 2B parcels. MWAA Accepted PIPs for Parcel 261, 228, 260/360, 259, 224, 257, 357, 235, 225, 226, 212, 267, 211, 208, 209, 210, 227, 204, 205, and 268.

¹⁰ Does not include those parcels on which construction will be performed by permit/permission (TRIP II and Fairfax County). Acquisitions/conveyances will be based on as-built conditions and completed prior to Substantial Completion.

Third Party Agreements

MWAA reported that there are six Intergovernmental Agreements required for Phase 2: WMATA, Virginia Department of Transportation (VDOT), Fairfax County, Loudoun County, the Town of Herndon, the Dulles Greenway. As of November 4, 2013, MWAA had executed all six Intergovernmental Agreements.

The summary of the status of the agreements follows.

AGREEMENT	STATUS	NOTES
WMATA – New Agreement	Executed on August 7, 2013	Effective date August 7, 2013
VDOT – Amendment of Phase 1 Agreement	Executed on November 4, 2013	Effective date November 4, 2013
Fairfax County – Amendment of Phase 1 Agreement	Executed on May 28, 2013	Effective date May 28, 2013
Loudoun County	Executed on August 7, 2013	Effective date August 7, 2013
Town of Herndon	Executed on July 9, 2013	Effective date July 9, 2013
TRIP II (Dulles Greenway)	Executed on September 30, 2013	Effective date August 1, 2013
Local Funding Agreement with VDOT for Route 606 improvements	Executed on June 11, 2014	Work was added to the design plans prior to execution of the agreement.

National Environmental Policy Act (NEPA)

MWAA prepared an Environmental Assessment covering the preliminary engineering design refinements for Phase 2, and issued it for public review on May 10, 2012. The FTA Regional Administrator issued a Finding of No Significant Impact (FONSI) on December 17, 2012, that stated there were “no significant environmental or socioeconomic impacts associated with the design refinements for Phase 2 of the Dulles Corridor Metrorail Project.” FTA cautioned that should there be any changes in the location of the parking facilities by the counties, or if they need any additional property for the construction of the parking facilities, MWAA must notify FTA immediately to determine if the environmental documents would need revisions.

On April 24, 2015, MWAA submitted a letter regarding the environmental re-evaluation for the DCMP Phase 2 parking garage refinements to the FTA on June 4, 2015. FTA’s concurrence letter dated August 10, 2015 was received on August 11, 2015.

MWAA last updated their Summary Matrix of Environmental Mitigation Measures to FTA on July 31, 2017 for the second quarter of 2017.

B. Project Management Plan (PMP) and Sub-plans

MWAA has submitted the PMP and required sub-plans. Below is the status of each plan received by FTA through *August 8, 2017*.

MWAA submitted a Draft PMP, Version 2.2, to the FTA on October 31, 2016. PMOC provided comments to FTA on December 9, 2016. FTA forwarded the comments to MWAA on December 22, 2016 and requested that the comments be incorporated by January 31, 2017. **PMP Final Version 2.2** was submitted to the FTA on January 31, 2017 and PMOC recommended the FTA approve the document with comments on February 8, 2017. FTA approved the Plan with comments on April 6, 2017.

MWAA submitted the latest revision of the Phase 2 **Quality Program Plan** (QPP), Revision 1, to the FTA on March 26, 2013 for FTA review and approval. On September 23, 2013, FTA approved the Phase 2 QPP, Revision 1, and requested that MWAA update it as needed as Phase 2 continues to move forward through final design and construction.

MWAA submitted **Safety and Security Management Plan** (SSMP), Revision 2 dated February 29, 2016 was submitted it to the PMOC on February 25, 2016. The PMOC provided review comments on the SSMP to FTA on March 8, 2016. WMATA's email of April 13, 2016 stated that they had received the revised SSMP and had no comments. FTA's email of June 15, 2016, accepted the Plan with comments. The SSMP revision was expected by the end of February 2017. MWAA submitted the updated SSMP to FTA on April 12, 2017 and the PMOC recommended FTA accept the Plan on April 27, 2017. PMOC submitted additional comments on June 1, 2017 recommending MWAA include the Federal WMATA Safety Oversight (FWSO) to the SSMP. The FWSO comment was resolved and FTA approved the plan on August 8, 2017.

MWAA submitted the revised **Risk and Contingency Management Plan** (RCMP) on May 17, 2016. PMOC requested and received MWAA's Excel worksheets in support of their contingency analysis for review. On August 8, 2016, PMOC requested that the "Draft" watermark be removed and the Final document be formally submitted to the FTA with some minor edits. The Project team submitted the RCMP Rev 2.0 along with FTA requested revisions on August 11, 2016. PMOC recommended that FTA accept the RCMP on September 6, 2016. FTA approved the RCMP dated August 11, 2016 on December 2, 2016. MWAA submitted an updated Risk Register on December 16, 2016 which was discussed with MWAA on January 11, 2017. On February 10, 2017, PMOC recommended FTA accept the update.

Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA **Rail Fleet Management Plan** (RFMP) is the applicable document. WMATA submitted RFMP, Revision J, on August 1, 2013 and FTA accepted it on August 8, 2013. WMATA submitted RFMP Revision 5a and PMOC provided comments on January 12, 2017. WMATA expects to submit a revised RFMP in early 2018.

C. Project Management Capacity and Capability

It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures.

The PMOC continues to monitor the transition of staff from the Phase 1 project to Phase 2 to ensure that there are adequate levels of dedicated and experienced staff on Phase 2 to ensure effective and efficient progression of final engineering and project management. As of the end of August 2017, eleven full time equivalents were working on Phase 1 which is the same as the July Report.

MWAA reported the *estimated* number of full-time equivalents for Phase 2 during August 2017 is 1,346 which is an *estimated decrease of 311 from the July 2017 revised actuals of 1,657*. The August 2017 numbers are composed as follows: MWAA – 33, Virginia Department of Rail and Public Transportation (DRPT) – 1, Virginia Department of Transportation (VDOT) – 4, Washington Metropolitan Area Transit Authority (WMATA) – 37, Project Management Support Services (PMSS) – 112, Capital Rail Constructors (CRC), Package A – 838, and Hensel Phelps Construction Company (HPCC), Package B – 321.

Upon completion of the project, WMATA will become the owner/operator of this extension to the existing Metrorail system. WMATA personnel have been active participants in the Phase 1 project, and the agency will have more staff involved on the Phase 2 project.

• Project Controls

MWAA has developed project management procedures with regard to monitoring and controlling project scope, quality, schedule, cost, contingency management, and safety. MWAA is to update the PMP by January 31, 2017, which it did. PMOC recommended that FTA approve PMP Final Version 2.2 on February 8, 2017. FTA approved PMP Version 2.2 on April 6, 2017. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures. Mr. Thomas Crone was introduced at the July 12, 2017 Update Meeting as the new Director of Contracts and Project Controls.

• **Compliance** It is the PMOC's observation that MWAA continues to follow the required statutes, regulations, and agreements.

• **Disadvantaged Business Enterprise (DBE) Goal** – MWAA developed a DBE Project Goal of 25% of the federal participation cost for Phase 2, which the FTA's Region 3 Civil Rights Officer reviewed, and subsequently approved on August 26, 2013.

• MWAA continues to review and verify Scheduled DBE participation (Contracts Awarded) and Actual DBE participation (Payments). The following table details DBE Goals, DBE contracts awarded and DBE participation achieved through the last assessment on July 31, 2017. Dollar values are included for the latest assessed period.

JULY 2017 PMOC ASSESSMENT						
PRIME CONTRACTS	DBE GOAL %	DBE CONTRACTS AWARDED (DBE/TC)	NEW DBE AWARDS JULY 2017	DBE CONTRACTS AWARDED TOWARD GOAL	DBE GOAL ACHIEVED (DBE Pmts/TC)	DBE PAYMENTS JULY 2017
PreEng - PRELIMINARY ENGINEERING	0%	15.77%	\$0	N/A	15.77%	\$0
PMSS - RA L OFFICE	25%	22.46%	\$7,412,861	89.85%	16.26%	\$0
PKG A - DESIGN BUILD CONTRACT	14%	14.61%	\$717,514	104.38%	6.89%	\$2,604,285
PKG B - RA L YARD AND MAINTENANCE FAC LITY	14%	13.98%	\$0	99.86%	3.66%	\$782,953
PKG S - SOIL STOCKP LE RELOCATION	25%	37.53%	\$0	150.11%	21.49%	\$0
*PSI - SPECIAL INSPECTION SERVICES	15%	12.17%	\$75,000	81.12%	10.72%	\$89,404
ROW - REAL ESTATE ACQUISITION	25%	25.67%	\$0	102.70%	6.05%	\$22,333
TOTALS			\$ 8,205,374			\$ 3,498,975
*Professional Services Industries' (PSI) July 2017 values were prematurely report on the June 2017 PMOC Monthly Report. The current values are accurate, and the June 2017 New DBE Awards and DBE Payments were \$0.						

- **Davis-Bacon Act Verification** – MWAA is reporting Davis-Bacon Act verification activities in the Monthly Progress Report. As of the *July 2017* MWAA Monthly Progress Report, DBA compliance monitoring is ongoing including the review of certified payroll reports and Prime Contractor requests to add additional job classifications and wage rates.

D. Project Cost

MWAA's Phase 2 project budget was \$3,126,450,757, including the cost of the parking facilities funded by Fairfax and Loudoun Counties. This figure is in year-of-expenditure dollars and excludes the finance costs. With the commitment from both Fairfax and Loudoun Counties to fund and procure the parking facilities independently, MWAA has revised its Phase 2 project budget to \$2,778,235,564. This is a deduction of \$348,215,194, which includes associated primary and secondary mitigation for the parking facilities. The SCC budget and expenditure summary for the period ending *July 2017* is shown below. As of *July 2017*, project expenditures total \$1,376,360,400. Based on the budget and expenditures, the total project completion is 57%. This percentage does not include finance charges and contingency.

All Packages Cost Summary by SCC Code, July 2017

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ¹	BASELINE BUDGET ²	EXPENDITURE IN JULY	EXPENDITURE TO DATE ⁴	ESTIMATE AT COMPLETION ⁵	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 344,946,326	\$ 167,928,670	\$ 5,341,652	\$ 144,351,621	\$ 203,636,734	\$ 4,510,734
20	Stations	\$ 228,424,057	\$ 227,697,000	\$ 5,471,103	\$ 87,877,144	\$ 216,818,282	\$ 9,944,011
30	Yards, Shops, Admin. Bldgs	\$ 229,857,097	\$ 213,730,843	\$ 9,719,536	\$ 109,059,587	\$ 221,274,357	\$ 7,543,514
40	Site Work and Utility Relocation	\$ 394,075,868	\$ 545,160,692	\$ 7,386,521	\$ 455,520,510	\$ 667,240,129	\$ 121,553,993
50	Systems	\$ 193,794,178	\$ 215,516,247	\$ 3,545,735	\$ 86,568,069	\$ 217,242,357	\$ 12,332,210
60	Right of Way Acquisition	\$ 58,523,267	\$ 58,600,000	\$ 118,240	\$ 8,125,222	\$ 58,128,300	\$ -
70	Vehicles	\$ 212,765,000	\$ 213,613,334	\$ 12,317,184	\$ 52,149,907	\$ 213,613,334	\$ -
80	Professional Services	\$ 564,398,592	\$ 574,696,366	\$ 7,090,594	\$ 432,708,340	\$ 603,689,181	\$ 28,815,061
90	Contingency ³	\$ 551,451,179	\$ 561,292,412	\$ -	\$ -	\$ 376,592,889	\$ (184,699,523)
TOTAL PROJECT COST		\$ 2,778,235,564	\$ 2,778,235,564	\$ 50,990,565	\$ 1,376,360,400	\$ 2,778,235,564	\$ -

¹ Original Budget is based on Table 2-1 "Program Budget Breakdown" of RCMP Rev1c submitted to FTA in November 2013

² Baseline Budget reflects cost loading of Package A baseline schedule approved in February 2014 and redistribution of spare parts budget. Baseline Budget for Packages B and S is adjusted to matched the Contract Price. Baseline Budget for Contingency is adjusted by \$9.8 million increase which is the net of the underrun in Package S and overrun in Package B.

³ All of the contingency resides in SCC 90

⁴ Package A expenditure to date include \$5 million of retainage released in December 2014. Excludes Betterments

⁵ Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests. Excludes Betterments

On May 14, 2013, MWAA awarded the Package A Contract for final design and construction of the line and stations in the amount of \$1,177,777,000. This was \$307.6 million below the engineer's estimate, which did not take into account the Insurance line item that was deleted from the contract award amount. In April 2014, MWAA redistributed the SCC budgets to reflect the cost-loaded Final Baseline Schedule for Package A and in April 2015 the SCC budgets were redistributed to reflect the cost-loaded Final Baseline Schedule for Package B.

As of *July 2017*, Contingency Drawdown Requests (CDR) totaling \$184,699,523 have been issued. This includes a contribution to Contingency of \$9,841,233 due to balance of the under run for Package S and the overrun in Package B.

The following are the expenditures through July 2017 by SCC for each of the contract packages. Both Package A and Package B continue to lag the planned performance levels. Both CRC (Package A) and HPCC (Package B) need to increase their staffing levels to meet the Contractual Substantial Completion Dates.

Package A Cost by SCC – July 2017

Package A Project Cost Summary by SCC Code

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ¹	BASELINE BUDGET ²	EXPENDITURE IN JULY	EXPENDITURE TO DATE ³	ESTIMATE AT COMPLETION ⁴	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 340,953,449	\$ 163,928,670	\$ 5,341,652	\$ 144,351,621	\$ 199,636,734	\$ 4,510,734
20	Stations	\$ 224,432,514	\$ 223,697,000	\$ 5,471,103	\$ 87,877,144	\$ 212,818,282	\$ 9,944,011
30	Yards, Shops, Admin. Bldgs	\$ 377,285	\$ -		\$ -	\$ -	\$ -
40	Site Work and Utility Relocation	\$ 352,759,752	\$ 509,201,330	\$ 7,128,343	\$ 431,273,876	\$ 621,232,897	\$ 111,506,122
50	Systems	\$ 172,044,132	\$ 188,997,000	\$ 3,545,735	\$ 86,539,464	\$ 190,723,110	\$ 12,332,210
60	Right of Way Acquisition	\$ -	\$ -		\$ -	\$ -	\$ -
70	Vehicles	\$ -	\$ -		\$ -	\$ -	\$ -
80	Professional Services	\$ 87,209,868	\$ 91,953,000		\$ 111,547,325	\$ 114,332,546	\$ 22,201,792
90	Contingency	\$ -	\$ -			\$ -	
TOTALS		\$ 1,177,777,000	\$ 1,177,777,000	\$ 21,486,833	\$ 861,589,430	\$ 1,338,743,569	\$ 160,494,869

1 Original Budget is based on Table 2-1 "Program Budget Breakdown" of RCMP Rev 1c submitted to FTA in November 2013

2 Baseline Budget reflects cost loading of Package A baseline schedule approved in February 2014 and redistribution of spares parts budget This reflects the original contract amount

3 Expenditure to date include \$5 million of retainage released in December 2014 Excludes Betterments

4 Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests Excludes Betterments

Package B Cost by SCC – July 2017

Package B Project Cost Summary by SCC Code

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ^{1,3}	BASELINE BUDGET ²	EXPENDITURE IN JULY	EXPENDITURE TO DATE	ESTIMATE AT COMPLETION ⁴	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ -	\$ -			\$ -	
20	Stations	\$ -	\$ -			\$ -	
30	Yards, Shops, Admin. Bldgs	\$ 202,977,283	\$ 201,238,645	\$ 9,719,536	\$ 103,394,800	\$ 208,284,659	\$ 7,046,014
40	Site Work and Utility Relocation	\$ 25,772,661	\$ 23,296,613	\$ 258,178	\$ 20,603,510	\$ 31,324,150	\$ 8,027,537
50	Systems	\$ -	\$ 2,772,451			\$ 2,772,451	
60	Right of Way Acquisition	\$ -	\$ -			\$ -	
70	Vehicles	\$ -	\$ 1,558,000			\$ 1,558,000	
80	Professional Services	\$ 20,530,586	\$ 24,123,291	\$ 80,750	\$ 23,950,249	\$ 26,274,354	\$ 2,151,063
90	Contingency	\$ -	\$ -			\$ -	
TOTALS		\$ 249,280,530	\$ 252,989,000	\$ 10,058,464	\$ 147,948,559	\$ 270,213,614	\$ 17,224,614

1 Original Budget is based on Table 2-1 "Program Budget Breakdown" of RCMP Rev 1c submitted to FTA in November 2013

2 Baseline Budget reflects cost loading of Package B baseline schedule approved in March 2015 This reflects the original contract amount

3 Original Budget includes \$500,000 for the Route 606 improvements at Rail Yard that is now performed outside Package B

4 Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests

Through August 2017, approved change orders totaled \$150,387,808 for Package A, which is unchanged from July 2017. The change orders in process in August 2017 total \$17,154,965 and 47 Requests For Change (RFC) under evaluation total approximately \$43,140,950 in Contractor proposals for Package A. In addition, MWAA has approved 42 change orders for Package B that total \$12,232,614. The change orders in process in August 2017 total \$2,628,346 and 19 Requests for Change (RFC) under evaluation total \$21,997,940. This represents a total of \$247,542,623 or 44.1% of the total Project Contingency of \$561,292,412 at a point where overall Project completion is at 57%.

Monthly Cost Report, July 2017

DESCRIPTION	ORIGINAL BUDGET	BASLINE BUDGET ^{3,5}	EXPENDITURE TO DATE ⁴	ESTIMATE AT COMPLETION ⁶	PERCENT OF EAC EXPENDED TO DATE
Design-Build					
Design Build Main Line - Package A	\$ 1,177,777,000	\$ 1,177,777,000	\$ 861,589,430	\$ 1,338,743,569	
Commodity Escalation - Package A	\$ 16,000,000	\$ 16,000,000	\$ -	\$ 16,000,000	
Yard - Package B + Yard Soil Preparation - Package S	\$ 269,280,530	\$ 258,939,297	\$ 154,398,873	\$ 276,663,928	
Commodity Escalation - Package B	\$ 4,000,000	\$ 4,000,000	\$ -	\$ 4,000,000	
Parking Garages - Package C	\$ -	\$ -	\$ -	\$ -	
Design-Build Contracts Total	\$ 1,467,057,530	\$ 1,456,716,297	\$ 1,015,988,303	\$ 1,635,407,497	62%
Right of Way					
Parcels & Project Management	\$ 58,600,000	\$ 58,600,000	\$ 8,125,222	\$ 58,128,300	
Right Of Way Total	\$ 58,600,000	\$ 58,600,000	\$ 8,125,222	\$ 58,128,300	14%
WMATA Agreement					
Vehicles	\$ 205,868,200	\$ 205,868,200	\$ 52,149,907	\$ 205,868,200	
WMATA Non Revenue Vehicles	\$ 9,250,751	\$ 9,620,781	\$ 3,008	\$ 9,620,781	
WMATA Project Management and Other Costs	\$ 90,205,767	\$ 89,835,737	\$ 20,420,293	\$ 89,835,737	
WMATA Agreement Total	\$ 305,324,718	\$ 305,324,718	\$ 72,573,208	\$ 305,324,718	24%
Preliminary Engineering					
Preliminary Engineering Total	\$ 75,000,000	\$ 75,000,000	\$ 73,266,056	\$ 75,000,000	98%
Airports Authority Services					
Airports Authority Project Management	\$ 64,620,000	\$ 64,620,000	\$ 43,224,105	\$ 65,821,913	
Project Management Support	\$ 140,000,000	\$ 140,000,000	\$ 119,235,422	\$ 140,560,000	
Other Costs ¹	\$ 116,182,137	\$ 116,682,137	\$ 43,948,085	\$ 121,400,247	
Airports Authority Services Total	\$ 320,802,137	\$ 321,302,137	\$ 206,407,612	\$ 327,782,160	63%
Contingency					
Contingency Total	\$ 551,451,179	\$ 561,292,412		\$ 376,592,889	
Dulles Airport Windscreens - Package G					
Dulles Airport Windscreens Total	\$ -	\$ -		TBD	
Stormwater Management Ponds - Package P					
Stormwater Management Ponds Total	\$ -	\$ -		TBD	
TOTAL PROJECT COSTS	\$2,778,235,564	\$2,778,235,564	\$1,376,360,400	\$2,778,235,564	57%²

1 Includes Rent, Relocation, OCIP, VDOT, Dulles Rail Consultants, Testing Consultant, DGS, TRIP II, DEQ, Airports Authority Permits/Inspection, Testing Power and Historic/Archaeological Mitigation Estimate at Completion includes Dominion Virginia Power Route 28 to Frying Pan Road Ductbank Installation also

2 This percentage does not include Contingency

3 Baseline Budget for Package A, B and S reflects the Contract Price Baseline Budget for Contingency is adjusted by \$9.8 million increase which is the net of the underrun in Package S and overrun in Package B

4 Package A expenditure to date includes \$5 million of retainage released in December 2014 Excludes Betterments

5 Baseline Budget for WMATA Agreement is adjusted to align with WMATA's distribution of original budget in invoice #2

6 Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests Excludes Betterments

Funding Sources

Primary funding for Phase 2 (excluding parking facilities) comes from MWAA (8.41%), Fairfax County (18.63%), Loudoun County (9.85%), Commonwealth of Virginia (11.64%), Dulles Toll Road (49.31%), and the Northern Virginia Transportation Authority (2.16%). The Northern Virginia Transportation Authority funding of \$60 million is to be used to fund just the construction of the Innovation Station and was awarded in October 2015 and May 2016. MWAA, Fairfax County, and Loudoun County received a total of \$1.876 billion in direct loans under the United States Department of Transportation (USDOT) Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance program to assist in financing their shares.

Funding Source	Phase 2 Funding*	Percentage of Total
Commonwealth of Virginia	\$ 323,300	11.64%
Northern VA Transportation Authority	\$ 60,000	2.16%
Fairfax County	\$ 517,692	18.63%
Loudoun County	\$ 273,597	9.85%
MWAA (Aviation Funds)	\$ 233,698	8.41%
MWAA (Dulles Toll Road)	\$ 1,369,949	49.31%
Total Sources of Funding	\$ 2,778,236	100.00%

* In \$1,000

TIFIA Funding Status

On August 20, 2014, United States Department of Transportation (USDOT) Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance program executed a loan with MWAA, not to exceed \$1.278 billion to assist in financing its share. The TIFIA Loan with Loudoun County for up to \$195 million closed on December 9, 2014 and the TIFIA Loan with Fairfax County for up to \$403 million closed on December 17, 2014. The US Department of Transportation has provided \$1.876 billion in TIFIA Loans to support the construction of Phase 2. As of August 2014, this represents the largest TIFIA assistance for a single project in the program's history. MWAA submitted their Recovery Plan on August 11, 2016 which was accepted by FTA on October 3, 2016. The Recovery Plan reflected the thirteen month delay to the Project. MWAA submitted their 2017 TIFIA Financial Plan and associated Revised Financial Model of the Project on March 30, 2017.

E. Project Schedule

Phase 2 is currently in the design/construction phase. Construction began on Package A in June 2014 with the start of utility relocation. The commencement of revenue service is to begin on March 31, 2020, according to the last accepted overall Program Schedule. Since MWAA announced on April 27, 2015 that the Project was incurring a thirteen month delay, a revised baseline schedule has been submitted. Revised Project Milestones are updated based on the accepted-as-noted Package Revised Baseline Schedule in May 2015.

The table below shows the Phase 2 milestones as noted in the *July 31, 2017 Project Master Schedule* dated *September 7, 2017*, as provided by MWAA. *These dates are based on CRC's July 2017 Monthly Schedule Update which was "Accepted as Noted" by MWAA. CRC's July Schedule Update brings the*

Project Substantial Completion Date back to the Contractual Substantial Completion Date of August 7, 2019.

DULLES CORRIDOR PHASE 2 MILESTONES	
DESCRIPTION	DATE
Package A – Design-Build Contract Award	05/14/2013(A)
Package S – Advanced Earthwork Contract IFB	06/27/2013 (A)
Package A – Contract NTP	07/08/2013(A)
Package S – Advanced Earthwork Contract Award	11/01/2013 (A)
Package S – Advanced Earthwork Contract NTP	11/18/2013 (A)
Package B – Contract RFQI	11/12/2013 (A)
Package B – Contract RFP	02/11/2014 (A)
Loudoun County Garages – Board Action on BAFOs	06/10/2014 (A)
Package B – Contract Award	07/29/2014 (A)
Package A – Start of Construction	June 2014 (A)
Fairfax County – Approval of Land Use Cases for Parking Facilities	07/29/2014 (A)
Package B – Contract NTP	08/18/2014 (A)
Package S – Advanced Earthwork Contract Substantial Completion	12/08/2014(A)
Deadline for Fairfax and Loudoun Counties' decision to construct the Parking Facilities	12/29/2014(A)
Fairfax County – Design of Parking Facilities Complete	11/30/16 (A)
Loudoun County – Design for RFP of Parking Facilities Complete	01/04/17 (A)
Package A – Complete Design	1/12/18
Package A – Complete Aerial Guideway Structure Construction	10/31/17
Package A – Complete At-Grade Guideway Structure Construction	01/03/18
Package A – Complete Station Build-out	08/28/19
Package A – Complete Systems Installation	04/30/19
Fairfax County – Construction of Parking Facilities Complete	04/30/19
Loudoun County - Construction of Parking Facilities Complete	05/31/19
Package A – Forecasted Substantial Completion	08/07/19
Package B - Complete Yard Systems and Commissioning	11/28/18
Package B – Forecasted Substantial Completion	05/14/19
Complete WMATA Operations Readiness Testing	10/6/19
Complete WMATA Revenue Operations Acceptance Testing	02/03/20
Revenue Service Date (RSD)	02/04/20
Project Final Acceptance	05/04/20

Important Activities – 90-Day Look Ahead

- *MWAA to hold a risk and contingency workshop with FTA and PMOC participation.*
- *MWAA to revise their RCMP based upon the results of their negotiations with CRC for the time delay costs and results of the risk and contingency workshop.*

Critical Path

CRC's Primary Critical Path as reflected in their July 2017 schedule update runs through the Innovation Station granite edge installation, continuing through N09 Station track and systems installation, N10 systems installation and static testing, followed by dynamic testing at the Airport and west segments, and finishing with Project-wide integration testing and systems performance demonstration. As noted above, MWAA "Accepted as Noted" this schedule update represents no delay to the Project completion. MWAA expects that CRC's September schedule update, which will incorporate their comments to the July 2017 Schedule Update.

F. Quality Assurance/Quality Control

The Quality Management Plan, Revision 1, submitted by CRC was approved in January 2014. MWAA added that it has requested the QC plans be submitted from the CRC subcontractors and vendors. CRC is submitting inspection test plans for MWAA review.

During August 2017, MWAA performed an audit of CRC's Cloud Plan and a surveillance of CRC subcontractor, Williams, who is providing face panels for the MSE walls.

MWAA typically submits a rolling six month Audit Schedule at each monthly update meeting. *The most recent QA Audit Schedule for September 2017 through December 2017 for Package A is shown below from the September 13, 2017 Update Meeting.*

DULLES CORRIDOR METRORAIL PROJECT

Phase 2, Package A

QA Audit and Surveillance Schedule

September 2017 through December 2017

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/ Surveillance	Lead
9/14/17	A	CRC's Quality Management Plan (Preparatory Processes)	N	MWAA
10/12/17	A	CRC's Construction Quality Management Plan (Initial Processes)	N	MWAA
11/16/17	A	CRC's Construction Quality Management Plan (Follow-up Processes)	N	MWAA
12/4/17	A	CRC's Design Quality Management Plan (Review of RFIs)	N	MWAA

During August 2017 no surveillance or audit was performed on Package B. The most recent QA Audit Schedule for Package B is shown below.

DULLES CORRIDOR METRORAIL PROJECT

Phase 2, Package B

QA Audit and Surveillance Schedule

September 2017 through December 2017

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/ Surveillance	Lead
9/15 /17	S	Hensel Phelps (MC Dean) – Caroline County, VA Electrical Fabrication	Y	MWAA/HP
10/19/17	S	Hensel Phelps – Vias/CMT (Special Trackwork)	Y	MWAA/HP
12/12/17	S	Hensel Phelps QC Inspection Records	Y	MWAA/HP

G. Safety and Security

Construction Safety and Security – The contractor’s safety performance reports, including the accident/injury statistics, are included in the MWAA Monthly Progress Reports. However, the PMOC requested that the Accident/Injury Statistics be provided by the fifteenth of each month, ahead of each monthly progress meeting. As of *August 2017*, CRC has recorded 5,053,054 hours worked with 177 first-aid cases, 25 OSHA recordable cases of which two resulted in lost time, 121 incidents, 30 utility hits, four environmental spills, 19 vehicular accidents, seven property damage claims (>\$1500) and six lost time days. *Twenty six first aid cases, three incidents, two utility hits, and one recordable accident (Non-Lost Time) occurred during August 2017. MWAA has asked CRC to look into the large number of first aid cases during July and August.*

HPCC has recorded 846,388 hours worked with five OSHA recordable (non-lost time) cases, one OSHA Recordable (lost time) case with twenty-eight lost time days, seven first-aid cases, one vehicular accident and 51 incidents. There was one incident investigation during August 2017.

Safety and Security Working Group (SCWG) is the entity charged with the development of Design and Construction Conformance criteria, checklists and hazard analysis for the Project. This group meets on a monthly basis and continues to function satisfactorily. WMATA is responsible for the Threat and Vulnerability Analysis and has hired their consultant for this work. WMATA has completed the review of the Phase 2 design against the existing Silver Line and Yard TVAs, and has not informed MWAA of any issues requiring resolution.

H. Americans with Disabilities Act (ADA)

There have been no ADA issues reported to date. The design of the Project is ADA compliant.

I. Buy America

There have been no Buy America issues to date.

J. Vehicle Technology

The Project is acquiring 64 new rail cars which are part of WMATA’s 7000 Series Rail Car Procurement. Earlier, MWAA procured 64 7000 Series Rail Cars for Phase 1. The monitoring of the rail car procurement is being done under the WMATA PMOC oversight. The production of the Phase 2 rail cars began in February 2017. WMATA expects the last Phase 2 rail cars to be delivered by October 31, 2017.

Project Risks

The Project team submitted the RCMP Rev 2.0 along with FTA requested revisions on August 11, 2016. PMOC recommended that FTA accept the RCMP on September 6, 2016. FTA approved the

RCMP dated August 11, 2016 on December 2, 2016. MWAA submitted an updated Risk Register on December 16, 2016 which was discussed with MWAA on January 11, 2017 and PMOC recommended that FTA accept it on February 10, 2017. On April 25, 2017, MWAA submitted an updated Contingency Phase Cost Reallocation to the FTA and PMOC recommended acceptance during the May 15, 2017 Quarterly Progress Review Meeting. *A Risk Workshop is scheduled for October 2017 with participation by FTA and PMOC.*

Budget Risks: MWAA has allocated \$551 million in contingency for the overall project. A contingency management plan has been established for the release of contingency based on contract milestones.

Schedule Risks: The result from MWAA's original schedule risk analysis showed that there is less than five percent chance that the Schedule Substantial Completion Date (SSCD) would take place on July 7, 2018. The 80% confidence level date for the SSCD is December 6, 2018, indicating a hypothetical delay of 152 calendar days. The schedule risk analysis performed by the project team was limited to the SSCD. For the Revenue Service Date (RSD), the project team has accepted the recommendation by PMOC to include a time contingency of 14 months in the overall program schedule. Overall, the schedule contingency, including the WMATA testing through the Revenue Service Date, is 14 months. With MWAA's announcement on April 27, 2015 that the Project was incurring a thirteen month delay, essentially all of the forecasted Project Schedule Contingency (14 months) has been consumed.

Action Items

MWAA – DULLES CORRIDOR METRORAIL PROJECT PHASE 2- Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
3	2B	MWAA to update SSMP.	SSMP Revision 2 should be reviewed and updated.	Y	Y	Y	MWAA submitted SSMP, Revision 3, to FTA on April 12, 2017 and PMOC recommended FTA approve the Plan on April 27, 2017. <i>PMOC</i> submitted additional comments to FTA on June 1, 2017 adding FWSO to the SSMP. The FWSO issue has been resolved. FTA's letter of August 8, 2017 approved the SSMP, Revision 3.	C

KEY ITEM Note– Items marked with a ‘C’ in the ‘PMO Contractor Status’ column will be dropped from future reports.

Subtask 2A CLIN 0002A – PMP Review
 Subtask 2B CLIN 0002 – On-Site Monitoring

LEGEND

PRIORITY (PR)

1- Most Critical
 2- Critical
 3- Least Critical

GRANTEE ACTION

D – Remedial Action Developed
 A – Remedial Action Approved
 I – Action Implemented

PMO CONTRACTOR STATUS

R – Review On-going
 C – Completed – No further review required

APPENDICES

APPENDIX A – LIST OF ACRONYMS

ACMC	Atlantic Contracting and Material Company
AHJ	Authority Having Jurisdiction
Airport	Dulles Airport
AUP	Agreed Upon Procedures
BAFO	Best and Final Offer
BMP	Best Management Practices
Board	MWAA Board of Directors
CA	Conditional Acceptance (7K Railcars)
CDR	Contingency Drawdown Requests
CPSM	Construction and Professional Services Manual (Commonwealth of Virginia)
CRC	Capital Rail Constructors
DB	Design-Build
DBE	Disadvantaged Business Enterprise
DBOM	Design-Build-Operate-Maintain
DBOM+F	Design-Build-Operate-Maintain-Finance
DCR	Design Change Request
DEQ	Department of Environmental Quality
DHR	Department of Historical Resources
DIAAH	Dulles International Airport Access Highway
DIDB	Disparate Impact and Disproportionate Burden
DTP	Dulles Transit Partners, LLC
DVP	Dominion Virginia Power
EA	Environmental Assessment
EPDM	Ethylene Propylene Diene Terpolymer (roofing system)
FIA	Fire and Intrusion Alarm
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
FWSO	Federal WMATA Safety Oversight
HPCC	Hensel Phelps Construction Company
IFP	Issued for Permit
IPP	Integrated Permit Package
LPA	Locally Preferred Alternative
MWAA	Metropolitan Washington Airports Authority
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
NTSB	National Transportation Safety Board
OCIP	Owner Controlled Insurance Program
PIP	Property Identification Plans
PMOC	Project Management Oversight Contractor
PMSS	Project Management Support Services
PMP	Project Management Plan
PPP	Public-Private Partnership
PRBS	Proposed Revised Baseline Schedule

QA	Quality Assurance
QC	Quality Control
QMP	Quality Management Plan
QPP	Quality Program Plan
RAMP	Real Estate Acquisition Management Plan
RCMP	Risk and Contingency Management Plan
RFMP	Rail Fleet Management Plan
RFQI	Request for Qualifications Information
RFP	Request for Proposal
RBS	Revised Baseline Schedule
SCC	Standard Cost Category
SHPO	State Historic Preservation Office
S&I	Service and Inspection
SSCD	Schedule Substantial Completion Date
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
STOMP	Safety and Security Oversight Management Plan (TOC)
SWM	Storm Water Management
SWPPP	Stormwater Pollution Prevention Plan
TBD	To Be Determined
TOC	Tri-state Oversight Committee
TIA	Time Impact Analysis
TIFIA	Transportation Infrastructure Finance and Innovation Act
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation
VSMP	Virginia Stormwater Management Program
WFC	West Falls Church
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX B – PROJECT OVERVIEW

Project Name: Dulles Corridor Metrorail Project – Phase 2
Grantee: Metropolitan Washington Airports Authority (MWAA)
FTA Regional Contact: Corey Walker, P.E. - FTA Region III, DC Metro Office Engineer
FTA Headquarters Contact: Dale Wegner, P.E. - FTA Headquarters, Project Manager

Scope

Description: Phase 2 of the Project consists of the design and construction 11.4 route miles of new track from the interim terminus at Wiehle-Reston East Station through Washington Dulles International Airport to a terminus in eastern Loudoun County. The current Phase 2 project budget is \$2,778,235,564 exclusive of parking facilities and finance costs. (Overall cost is 3.126 B.)
Guideway: Phase 2 consists of 11.4 miles of elevated and at-grade guideway.
Stations: Phase 2 includes six new stations (Reston Town Center, Herndon, Innovation Center, Dulles Airport, Route 606 and Route 772 Stations).
Support Facility: Phase 2 includes a maintenance and storage yard facility at Dulles Airport, wayside facilities (including traction power substations, tiebreaker stations, stormwater management ponds along the alignment), and five new parking facilities with 8,900 parking spaces.
Vehicles Phase 2 includes sixty-four new railcars.

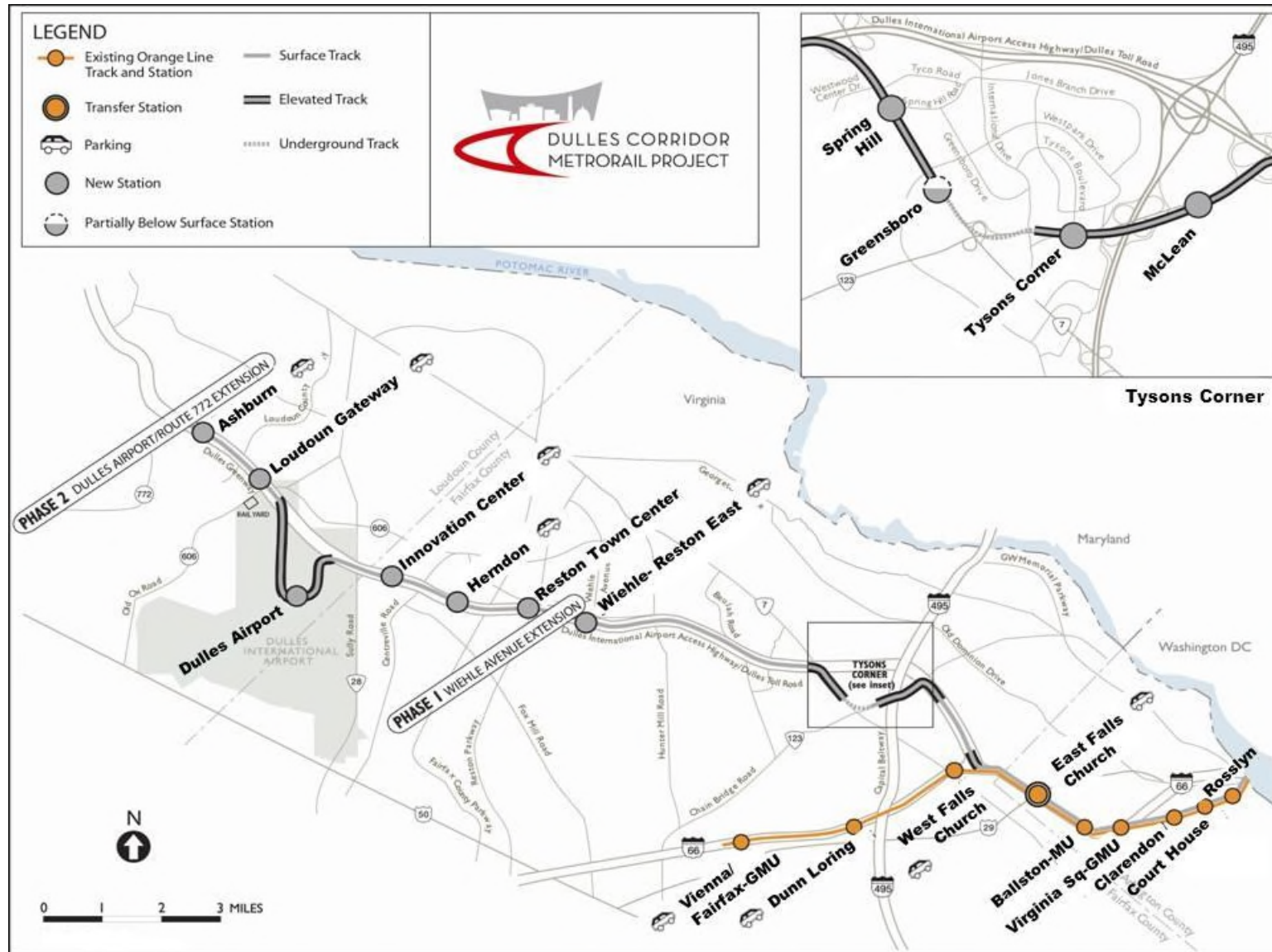
Current Delivery Milestone Schedule

12/01/2009	Preliminary Engineering Commenced
02/29/2012	Preliminary Engineering Completed
07/08/2013	Package A Design-Build NTP issued
11/18/2013	Package S Design-Build NTP issued
08/18/2014	Package B Design-Build NTP issued
05/08/2015	MWAA TIFIA Loan Executed
	Package S Completed
62%	Percent Work in Place Complete at the date of this report (<i>earned value</i>)
67.12%*	Percent Project Schedule Complete at the date of this report
	*Based on SSCD of August 7, 2019

Cost

\$2,778,235,564	Total project cost in year-of-expenditure dollars (\$YOE) at the date of this report
\$1,376,360,400	Amount of expenditures at the date of this report from a total project budget of \$2,778,235,564
57%	Percent Complete expenditures at the date of this report. (This percentage does not include finance charges and contingency)
\$376,592,889	Total project contingency remaining (allocated and unallocated contingency)

APPENDIX C – PROJECT MAP



APPENDIX D – MWAA SAFETY AND SECURITY CHECKLIST

Project Overview		Dulles Corridor Metrorail Project – Phase 2	
Project Mode (Rail, Bus, BRT, multimode)		Rail	
Project Phase (Preliminary Engineering, Design, Construction, or Start-up)		Design and Construction	
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGG, etc.)		Design/Build	
Project Plans	Version	Review By FTA	Status
Safety and Security Management Plan	February 2016	Approved on June 16, 2016	MWAA submitted a revised SSMP on February 25, 2016 and PMOC provided comments to the FTA on March 28, 2016. MWAA's email of April 13, 2016 stated they had no comments on the revised SSMP. FTA accepted the Plan with comments on June 15, 2016. The 2017 update was submitted on April 12, 2017 and PMOC recommended FTA approval on April 27, 2017. PMOC provided additional comments on June 1, 2017, requesting the FWSO be added to the Plan. The issue regarding the FWSO has been resolved and FTA's letter of August 8, 2017 approved the revised plan.

Safety and Security Certification Plan			<p>MWAA has adopted their contractors' SSCPs as the guiding certification documents. MWAA Accepted "CRC's SSCP on October 10, 2014. MWAA accepted as noted HPCC's SSCP on February 20, 2015. The SSCP was resubmitted on May 28, 2015, and returned "Accepted as Noted" on July 2, 2015. HPCC resubmitted the SCPP on October 8, 2015 and MWAA "accepted as noted" on November 11, 2015. The SSCP was resubmitted on December 9, 2015 and accepted by MWAA on December 21, 2015.</p>
System Safety Program Plan	January 2013		WMATA's 2014 SSPP is effective January 2014 and approved by TOC on April 25, 2014.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)	3/2012	N/A	WMATA submitted a revised SEPP to TOC in March 2012, which the TOC approved on April 23, 2012.

Construction Safety and Security Plan (CSSP)			CRC's CSSP was accepted on December 13, 2013. The CSSP procedures were submitted on June 4, 2014 for information. CRC's CSSP was resubmitted in January 2015 and accepted on February 5, 2015. APMC's CSSP was Accepted as Noted on December 23, 2014. HPCC's CSSP, Rev.1, was accepted by MWAA on December 15, 2014. The Procedures were accepted on March 5, 2015.
Safety and Security Authority	Y/N	Notes/Status	
Is the grantee subject to 49 CFR Part 659 State Safety Oversight requirements?	Y	Tri-State Oversight Committee (TOC)	
Has the State designated an oversight agency as per Part 659.9?	Y	Tri-State Oversight Committee (TOC)	
Has the oversight agency reviewed and approved the grantee's SSPP as per 659.17?	Y	TOC approved an updated WMATA SSPP dated January 2013 on February 15, 2013.	
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	Y	WMATA SEPP approved on April 23, 2012.	
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	TOC and/or its contractor (TRA) routinely attend the quarterly meetings, including the most recent on February 13, 2017.	
Has the grantee submitted its safety certification plan to the oversight agency?	Y		
Has the grantee implemented security directives issued by the Department of Homeland Security, Transportation Security Administration?	Y	WMATA will be operator. TSA representatives participate in the monthly SCWG meetings.	

SSMP Monitoring	Y/N	Notes/Status
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	MWAA submitted a revised SSMP on February 25, 2016. FTA accepted the Plan with comments on June 15, 2016. The 2017 update, submitted on April 12, 2017 and PMOC recommended FTA approval on April 27, 2017. PMOC provided additional comments on June 1, 2017, requesting the FWSO be added to the Plan. <i>SSMP</i> , Revision 3 was approved by FTA on August 8, 2017.
Grantee reviews the SSMP and related project plans to determine if updates are necessary?	Y	
Does the grantee implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	Y	
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	Y	
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	Y	
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	Y	
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	Y	

Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	N	Contractors (CRC and HPCC) are responsible for PHAs. A draft copy of the PHA was provided by CRC on June 25, 2014. CRC's Final PHA was submitted to MWAA on December 23, 2015. CRC began updating their PHA in early 2017 is expected to complete the review in the fourth quarter of 2017. HPCC's PHA was finalized on February 14, 2017. WMATA is responsible for TVA and selected a TVA Consultant in November 2016. The TVA consultant completed their TVA design review of Phase 2 on March 1, 2017.
Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	N	CRC and HPCC will resolve all identified hazards and vulnerabilities with final review by the SCWG.
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Yes, through SCWG.
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	N	MWAA is developing the PHAs through its contractors, CRC and HPCC, and WMATA is responsible for the TVA.
Has the grantee ensured the development of safety design criteria?	Y	
Has the grantee ensured the development of security design criteria?	Y	
Has the grantee ensured conformance with safety and security requirements in design?	N	The safety and security requirement conformance process is ongoing and a report will be issued at the end of the design phase.
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	N	This requirement will be met through Construction Specification Conformance.
Has the grantee verified construction specification conformance?	N	The construction specification conformance process is in progress and a report will be issued at the end of the construction phase.
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	N	

Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	Contractor is responsible for this evaluation.
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	N	
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following: <ul style="list-style-type: none"> • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan 	N	
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	

Construction Safety	Y/N	Notes/Status
Does the grantee have a documented/implemented Contractor Safety Program with which it expects contractors to comply?	Y	
Does the grantee's contractor(s) have a documented company-wide safety and security program plan?	Y	
Does the grantee's contractor(s) have a site-specific safety and security program plan?	Y	MWAA has accepted the contractor's Construction Safety and Security Plan.
Provide the grantee's OSHA statistics compared to the national average for the same type of work. If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	Y	System in place, construction activities have started on Package A. Package B construction started in July 2015.
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	MWAA has developed an Audit schedule. MWAA conducts audits every six months of the Construction Safety and Security and System Safety and Security for both Package A and Package B.

Federal Railroad Administration	Y/N	Notes/Status
If shared track: has grantee submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested)	N/A	This is a Heavy Rail Transit Project. There is no FRA involvement.
If shared corridor: has grantee specified specific measures to address shared corridor safety concerns?	N/A	
Is the Collision Hazard Analysis underway?	N/A	
Other FRA required Hazard Analysis – Fencing, etc.?	N/A	
Does the project have Quiet Zones?	N/A	
Does FRA attend the Quarterly Review Meetings?	N/A	

APPENDIX E – Top 10 Project Risks

RCMP - Top Ten Risks as of July 2017			
Risk ID	Event Description	(Proposed Primary) Risk Mitigation	Risk Rating
50.05.C.153	Communications System Scope of Work – Fire Alarm and Intrusion Alarm systems separation.	The designs for these changes have been finalized and the changes to construction have been reduced. Risk realized. Cost yet to be finalized.	25
80.03.C.3	<i>Recovery of Revised Baseline Schedule (for changes post CO-66) (Acceleration)</i>	Working to avoid further impacts that may delay the schedule. Minimize directing changes and objectively monitor CRC's performance for concurrent delays. <i>In July 2017 CRC submitted draft "On-Time" schedule for review.</i>	25
50.05.C.150	Communications System Scope of Work - Changes to match Phase 1 and RFP requirements.	The designs for these changes have been finalized and the changes to construction have been reduced. Risk realized. Cost yet to be finalized.	20
40.03.C.3	<i>Differing Site Conditions</i>	<i>1) Minimize any merited schedule impacts by considering acceleration costs.</i>	20
50.05.C.130	<i>Tie-Breaker Station (TBS) Exterior Access</i>	<i>1) Project team provided an alternative enclosure concepts to address WMATA's concerns. 2) Change Order under negotiation.</i>	20
20.02.C.1 NEW*	<i>Screenwall Glazing at Dulles Station</i>	<i>Project is developing RFP to competitively bid redesign and installation of screenwalls. RFP to be issued in Q3 2017, Continue coordination with CRC & complete Package G on time.</i>	20
80.08.C.196	WMATA does not complete testing, start-up or final acceptance in a timely manner.	Phase 1 Testing and Startup provided experience and lessons learned that improved both the Airports Authority and WMATA's processes, particularly in mutual understating and appreciation for timely communications and coordinated interactions. WMATA has larger staff in support of Phase 2 project. Any part of the corporate agreement, any major outstanding issues or disagreements are deferred to the executive committee to resolve.	20
30.05.C.237 NEW*	<i>Coordination of 34.5kV power from Package A to Package B</i>	<i>Expedite power delivery by Package A.</i>	20
80.03.C.2	Request for Equitable Adjustment Part 2 (REA-2) (for changes included in CO-66 but were not finalized) (<i>Cumulative claims</i>)	The notice of change was for information only and has been not submitted with an associated schedule in P6 native format for evaluation. Will review details once the native schedule file is submitted. <i>PT is also looking at CRC's performance, progress delays and reworks to refute the claim.</i>	18
80.02.D.240	Package B Design delays beyond June 1, 2016	1) Spot mitigation of issues as they arise 2) Expediting owner reviews, negotiating acceleration, coordinating with management. 3) <i>Airports Authority has notified that HP is responsible for this delay due to Deep Pits.</i>	18
* Proposed NEW item and Top Ten Risk			

APPENDIX F – PMOC Evaluation Team

Vince Gallagher, PE, PLS, PP, Program Manager

Mr. Vincent Gallagher is Hill’s Program Manager with responsibility for the FTA oversight program. Mr. Gallagher offers 35 years of engineering and construction management experience, including almost twenty years in the FTA’s PMO program, serving as a Program Manager and Task Order Manager.

Mathew Trzepacz, PE, Task Order Manager

Mr. Mathew Trzepacz, P.E., PhD, is responsible for oversight of this task order. He has over 40 years of experience in progressively responsible positions managing transportation design, maintenance, and construction. He has been the Project Manager for assignments in the FTA’s PMOC Program in Regions 2, 4, and 8 for over eight years. He also developed the training manual and was an instructor for the National Transit Institute’s course on the Management of Transit Construction Projects, which was established for the FTA. Mr. Trzepacz was previously responsible for a staff of professional engineers and maintenance forces as Chief Engineer for the Southeastern Pennsylvania Transportation Authority (SEPTA).

Randall Allen, PMP, Construction Management Manager

Mr. Allen was assigned as the full time onsite primary PMOC for all activities involved in the progress of the Phase I work on the Dulles Corridor Metrorail Project. After serving an enlistment in the U.S. Marine Corps, Mr. Allen gained 33 years of progressively responsible positions managing WMATA’s Metrorail Construction Projects. He served ten years as Washington Metropolitan Area Transit Authority (WMATA’s) Communications Office Engineer and Assistant Resident Engineer. He served 12 years as WMATA’s Trackwork Resident Engineer and six years as WMATA’s Project Manager on the Metrorail extension to Largo and the Shady Grove Yard Expansion.

Justine Belizaire – Gouveia, PMP, Construction Management Manager

Ms. Belizaire, PMP, has over 24 years of experience in transit program management and construction management. For the last seven years, she has been the Task Order Manager for FTA’s PMOC Program assignments in Regions 4 and 9 and provided technical support for assignments in Region 1. Ms. Belizaire has been responsible for all areas of construction management, including the responsibility to manage project budgets and schedules, as well as oversee the implementation of safety and security, and quality assurance and quality control programs.

Kevin Belizaire, M.Sc. (UK), Construction Management Manager

Mr. Belizaire, M.Sc. has over 38 years of experience in in Project and Construction Management. He has been responsible for the structural design and preparation of construction documents and the supervision of construction activities which included the oversight of the overall budget, schedule, safety, quality and project payments.

John Lehman, PE, Rail Equipment Engineer

John Lehman has over 35 years of experience in the transportation sector. Mr. Lehman has directed multi-disciplinary, multi-national engineering design teams on rail car manufacturing and large construction projects. He specializes in heavy equipment design, maintenance and operations, construction, and operations analysis for rail car procurement, rail manufacturing facilities and car repair and locomotive servicing facilities. Mr. Lehman has prepared engineering and economic studies on equipment selection, maintenance, transportation operations, and plant location.

Edward F. Nicholson, PE, Systems Integration Manager

Mr. Nicholson, P.E., has over 36 years of experience and has served as Senior Rail Planning Engineer, Superintendent of Signals, Communications, and Superintendent of Transportation for the Port Authority Trans-Hudson Corporation (PATH). During his employment at Hill, among other assignments, Mr. Nicholson has performed PMOC oversight reviews and assessments on the Dulles Corridor Metrorail Project, Washington Metropolitan Area Transit Authority Projects, the Weber County Commuter Rail, and Mid-Jordan Projects in Salt Lake City, and the Central Florida Commuter Rail Project.

Stephen A. Malaszecki, Project Scheduling Manager

Mr. Malaszecki has over 37 years of extensive experience in Project Controls, CPM Scheduling, and Construction Management of sophisticated construction projects throughout the nation. He brings a unique blend of specialized skills and knowledge to provide the expertise required to assist clients in managing their projects on time and within budget. Stephen has applied his expertise on projects ranging in value from under \$1 million to over \$1 billion. He has worked on design, engineering and construction projects in both the public and private sectors. His experience encompasses the successful completion of projects in every sector including: Transportation – Rail and Transit, Highways, Bridges, and Airports.

Wesley Albright, Construction Management Manager

Mr. Albright has over 38 years of experience managing and performing track work construction and maintenance in the Railway industry as both a Consultant and Employee of the Washington Metropolitan Area Transit Authority (WMATA). He has had responsibility for management of capital and operational budgets, personnel, and handling of management and labor disputes. He has strong expertise

in track maintenance, track production, and track construction, with over 20 years of direct experience with track inspection and quality control for all of WMATA tracks and track structures.

While working for consultants on the new Silver Line for the Metropolitan Washington Airports Authority (MWAA), he served as liaison and coordinator for client and contractor, scheduling equipment and personnel support requirements, track access and third rail power outages. He was a quality assurance inspector of mechanical, electrical and plumbing work for the construction of a new, two-track, shop Annex and the construction of an acoustical sound reducing structure; construction of six yard storage tracks, the installation of five No. 8 standard and equilateral turnouts; and, systems work, including automatic train control, traction power and communication in the expansion of transit rail yard.