

COMPREHENSIVE MONTHLY REPORT

September 2018

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

Metropolitan Washington Airports Authority
Washington, DC

November 3, 2018
(Revised November 20, 2018)

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: 5 years

Length of Time PMOC Lead Assigned to Project: 5 years

EXECUTIVE SUMMARY

The FTA and Project Management Oversight Contractor (PMOC) met with the Metropolitan Washington Airports Authority (MWAA) on October 10, 2018 for the Monthly Project Update Meetings 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 September 1, 2018 continues to indicate the contractual SSCD of August 7, 2019. The Package A Contractor's latest schedule through August 2018 shows a forecast Substantial Completion of November 1, 2019, representing 86 days of delay and was "Not Accepted" by MWAA. MWAA's Project Master Schedule indicates the Revenue Service Date (RSD) continues to be March 31, 2020.*

MWAA continues with close out activities for Phase 1. VDOT and MWAA continue to work toward resolution of the VDOT Punch List; MWAA 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, at a December 18, 2017 meeting with MWAA, agreed to repair all defective stormwater piping. MWAA reported the cost of these repairs will be funded jointly by Bechtel and MWAA. *MWAA submitted an update draft schedule for VDOT repairs dated October 8, 2018 which is more realistic and indicates that all VDOT work will be completed on June 28, 2019.*

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 Level 3 and AT&T utility companies have been slow to

respond. At the June 4th QPRM, MWAA reported that the Level 3 conflict was minor and require hand excavation at one location. Old Meadow Road construction is expected to be completed on June 28, 2019. 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	\$288,244,316
	Total Contingency (allocated plus Unallocated)	\$551,451,179	\$288,244,316
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>	\$2,190,787,394	88%
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>	\$1,951,671,714	78%
Actual Cost	Total cost of work completed to date <i>(actual total expenditures)</i>	\$1,848,996,277	74%
		Amount (\$)	Percent
Contracts	Total contracts awarded to date	\$2,372,693,924	97%
	Total construction contract awarded to date (construction contracts only)	\$1,678,440,019	69%
	Physical construction work completed (amount of construction contract work actually completed)	\$1,320,901,286	79%
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	Coordination of Package B and Package A interface	Package A has forecast interface supply dates up to three weeks behind Package B's need dates.	
Date of Next Quarterly Meeting (if known):		December 3, 2018	

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. MWAA reported the thirteen-month delay claim was settled for [REDACTED].
2. The additional construction costs related to the Stormwater/Early Design Changes and attendant increased overhead costs have yet to be finalized.
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. Power has been fed to the Maintenance Yard.
5. In April 2017, Capital Rail Constructors (CRC) informed MWAA that during an audit of Universal Concrete Products, the manufacturer of architectural pre-cast panels, errors were found in moisture content sampling of the aggregates used. Subsequent investigation found three main issues with the concrete: out of specification water cement ratio, insufficient air content of the concrete, and the lack of minimum concrete cover of the reinforcing steel. After extensive analysis it was determined that panels with insufficient concrete cover were to be replaced and the application of a penetrating silane waterproofing material would mitigate the low air content. On May 16, 2018, the Department of Justice (DOJ) unsealed their filing against Universal Concrete Products Corporation for violations of the False Claims Act. As part of the filing, the DOJ alleges that the aggregate being used in the concrete was from an unapproved quarry and failed to meet industry standard requirements, including alkali-silica reaction (ASR¹) testing. MWAA and the Package A contractor (CRC) are in the process of obtaining core samples from the panels and performing independent analyses of the susceptibility of the concrete to alkali- silica reaction [REDACTED].

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]

[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. Bechtel, at a December 18, 2017 meeting with MWAA, agreed to repair all defective stormwater piping. MWAA reported the cost of these repairs will be funded jointly by Bechtel and MWAA. MWAA and Bechtel negotiated an agreement covering this work. Construction began on July 2, 2018 and is expected to be completed on November 23, 2018. MWAA issued Task Order No. 46 for a survey and study of the underdrain repairs coupled with sidewalk and ADA repairs which is scheduled to be completed on October 19, 2018. The repairs will be undertaken on a block by block basis.

¹ASR is an expansive reaction that occurs over time in concrete between highly alkaline cement and the reactive non-crystalline (amorphous) silica found in common aggregates given sufficient moisture.

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MAIN REPORT

A. Project Status

Design Status

Final design and construction are 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 receipt of 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 had been poured. Structural crews have set the pedestrian bridges at the Herndon, Reston Town Center, and Innovation Center Stations.

Track wall openings for at grade access to the guideway were formed and poured along the Greenway and Dulles International Airport Access Highway (DIAAH) to close the guideway for track installation. The Contractor continues the relocation of the Dulles Toll Road (DTR) south of the Herndon Station for accessing the kiss and ride area and allowing the realignment of the DTR for Herndon Station. Traction power substations (TPSS) and tie-breaker stations (TBS) were graded and paved, as required. Precast screen walls and sheet metal walls were erected at the TPSS and TBS locations. Construction of the Innovation Station North sound wall continued. Fencing to secure the system from at-grade access was installed along the guideway, as were “chain marker” signs.

Communications lines were relocated to allow the contractor access to the southwest end of the existing Herndon Parking Garage to build the new entrance from Sunrise Boulevard. Power and communication lines were relocated to allow for the relocation of the Edmund Hailey Roadway south of the Reston Town Center Station Pavilion. Power and communication lines were relocated to allow clearance from top of rail on the east and west sides of Ashburn Station.

Herndon Station – Station ceiling grid was installed in the station and on the pedestrian bridges. Mechanical, electrical rough-in work and cabling continued in the station. South Pavilion elevator and escalator work continued. The North Pavilion structure continued to take shape with the installation of precast wall panels and setting structural steel.

Innovation Station - Electrical rough-in, cabling and plumbing work continues, along with detail work on the station and pavilion escalators and elevators. Finishes are being applied to the station with ceiling grids and lighting fixtures. Station touchup painting work in the station continued in September.

Reston Town Center Station - Station platform paver installation continues, as does mechanical and electrical rough-in work. Cable pulling continued within the station. North Pavilion construction continues with the detailing of the elevators and escalators. Structural detailing and painting continued at the South Pavilion, along with the installation of elevators and escalators.

Dulles Airport Station – The installation of station lighting and ceiling grid framing continued in the mezzanine ceiling. Granite edging and platform waterproofing work also continued in September. Work on the station interface with the pedestrian tunnel continued with the installation of the terrazzo flooring, glass storefront doors at the edge of the station and coiling gates for the limits of the WMATA station.

Loudoun Gateway Station - Station vault roof skylight framing and glazing continues. Mechanical, electrical and plumbing rough-in work and masonry work also continues, as does detailing work for the station elevators and escalators. Cable is also being pulled from the elevators and escalators to the AC switch gear.

Ashburn Station - Roof work continues, as does mechanical, electrical and plumbing rough-in work. Elevator and escalator work continues in the station and in the North and South Pavilions. Work also continues with detailing of the pedestrian bridges.

Rail and switches have been installed along the at-grade guideway in the DIAAH median through Herndon Station and Reston Station up to the Phase 1 tie-in. Rail and switches continue to be installed along the Greenway median up to and beyond the Ashburn Station. Cables continue to be installed between the emergency trip stations on the aerial guideway from Abutment A to the Dulles Greenway. Emergency trip station panels are being installed along the aerial and at-grade guideways. Verification of the TPSS #16 traction power equipment is being done. Electricians continue pulling power and train control cables to the aerial and at-grade guideway from the TPSS and TBS locations and are installing jumper cables and bonds on the aerial and at-grade track. Power and train control cables were installed in cable troughs throughout the aerial guideway and along the at-grade guideway east to the Wiehle Avenue tie-in. Guideway mounted equipment for train control and switch operation continues to be installed on the aerial and at-grade ballasted guideway from Reston Station through the Yard leads. Electricians have energized 34.5kV feeder power to Vista switches at TPSS locations, and station equipment was tested and final connection verification of this equipment continues prior to applying power to these downstream pieces of equipment and facilities. Communications cables were installed along the alignment and communications rooms are being equipped with racks and interconnecting cables are being installed and terminated. Intrusion detection cabling and panels were installed on the at-grade guideway from Abutment A to the Phase 1 tie-in. Traction power connections were made to the contact rail along the aerial guideway and into the east at-grade guideway.

Construction – Package B

As of the end of September 2018, work is continuing to progress on four major buildings in the Maintenance Facility. During the month, the Contractor performed mostly remedial track work to address the issue with fines in the ballast, and low elevations of the direct fixation troughs at the east ends of the Service and Inspection Building (SIB) and Maintenance of Way Building (MWB). The installation of tanks remains on hold while design changes are being reviewed. Installation of concrete pavement continues as does the installation of perimeter fencing. The installation of gas line across Route 606 also continued. Work on the sanitary force main remains on hold. The installation of the bio-retention ponds also progressed.

Mechanical, electrical and plumbing work continued in the high bay area of the SIB. Preparation work for the close-in of the ceiling is underway. The installation of industrial equipment continued in the SIB. The close-in of the ceiling started in September, and the installation of tile and millwork progressed.

Overhead mechanical, electrical, and plumbing rough-in continued and drywall framing was completed on the first floor and upper mezzanine of the Maintenance of Way Building (MWB). The installation of tile continues and painting progressed.

The installation of fireproofing continues, as did the installation of drywall in the Transportation Police Building (TPB). Mechanical, electrical and plumbing installation also continued in the TPB. Painting started in the TPB during September. Mechanical, plumbing and electrical installation continued in the Warehouse Building (WB), and drywall installation was completed. Tile work closure of the ceiling started in September in the WB. Roof installation continued at the Train Wash Facility (TWF) and preparations for the slab-on-grade were made. Testing of yard train control cabling continued throughout the site. The installation of switches, signals and insulated joints also continued.

Packages G and P

Package G (Dulles Airport Station Screen Wall) contract was awarded to W.M. Schlosser Company on August 15, 2018 and the kick-off meeting was held on August 22, 2018. *The contractor has made his first schedule submission which is under review.* The pre-construction meeting with HGS, LLC for Package P (Stormwater Management Ponds) was held on June 14, 2018, and the substantial completion date is June 12, 2021. This contract includes two years of maintenance. *HGS submitted their third version of the baseline schedule which is under review.*

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 project management and oversight of both projects.

Herndon - Fairfax County received bids for the Herndon Station Parking Garage and awarded the contract to Manhattan Construction; 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. The Garage Bridge Erection (connection between the new and existing garage) was completed on November 26, 2017, and access to the site from Sunrise Valley Road was reopened on that date. *Construction is 91% complete with the mechanical, electrical and plumbing work 96% complete. The focus is on interior work with both glazing and mechanical, electrical and plumbing work ongoing.*

Innovation Center - Notice to proceed was issued to Manhattan Construction on April 3, 2017. *Construction is 65% complete. Work on the garage has been suspended pending the analysis and resolution of settlement problems with the settlement of caissons. A remediation for one pier has been determined which involves the use of high strength grout and micro-*

piles. There are sixteen piers of the same design. To date, two caissons have settled, and four are suspect. Fairfax County's consultant is analyzing the problem.

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.

Route 772 North (Ashburn North) – The Ashburn North Garage was 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.

Construction on the Ashburn North Garage began in January 2017, and the construction was completed in January 2018. The certificate for non-residential occupancy was received and the garage opened at the end of April 2018. 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. As stipulated in the Master Agreement, the temporary use will cease 180 days before the Phase 2 revenue service date. The signage at Ashburn North Garage is in violation of County standards and no permits will be issued for the signage.

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 reports permits for the construction of both Ashburn South and Loudoun Gateway Garages have been obtained. Construction has begun on the installation of footings and drainage at Ashburn South. Installation of footings at Loudoun Gateway will begin as soon as rain ceases. Loudoun County and the Design-Build Contractor met with the fabricator of the external precast structure and all materials have been confirmed and fabrication has begun. The lease agreement with the Claude Moore Charitable Foundation for direct access to the Ashburn South site was signed on February 5, 2018 providing direct access to the site eliminating the intrusion into the Package Contractor's construction site. The 100% design has been approved. The scheduled completion date is May 31, 2019.

Loudoun Gateway Garage construction during September included earthwork/grading, erection of precast concrete, and under slab plumbing and electrical preparation. The second crane that was added to accelerate erection of precast concrete, which is now 85% complete, has been removed. Construction completion is planned for August 2019. The contractual completion date remains May 31, 2019.

Ashburn South Garage construction during August included erection of precast vertical piping for storm drains, caulking of precast joints, backfilling around the foundation perimeter, and under slab plumbing and electrical preparation. Precast concrete erection is approximately

90% complete. Completion of the garage is expected to be July 2019. The contractual substantial completion date is May 31, 2019.

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 September 2018 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	0	9	1	8	8
2A	27	25 ⁸	22	0	22	0	21	19
2B	20	20 ⁹	20	0	20	3	17	12
Total¹⁰	56	54	51	0	51	4	46	39

Right of Entry (ROE) Status:

- Full Access for Construction provided for acquired parcels and Parcels 237, 228, 226, 211, and 268.
- 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. Two new acquisitions added in September 2018 due to a newly identified expanded TCE by CRC for wall construction on Parcels 311 and 609. These will be incorporated into ongoing acquisitions for Parcels 211 and 309.

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, 268, and 265. 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 completed in September 2018.

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, 205, 204, 268, 212, 267 and 265. Negotiations ongoing for Parcels 237, 226, 210, and 265. Appraisal and offer revised for Parcels 226, 212, and 267 (latter two pending due to new ROW dedication by landowner). Offers rescinded for Parcels 253 and 271 as the acquisition need for those parcels was eliminated. An offer is not required for Parcels 236, 335, 235, and 257. Condemnation package prepared and sent to VDOT for Parcels 207, 220, 320, 260/360, 249, 349, 210, 557, 269, 268 (not filed), 228, 328, and 210 (second owner offer) due to impasse.

⁶ Negotiations completed for 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, 263, 225, 227, 357/557, 358, 252, 205, 204, 211, 269, and 268. Parcel 210's new owner had engaged in negotiations but impasse reached. Parcel 268 delivered the signed DEV Easement in August 2018, providing full construction access.

⁷ Completed acquisitions: 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), 224, 263, 225, 269 (COT), 208, 227, 205, 209, 252, 259, 204, 281 and 336. 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, 263, 308, 309, and 366. PIPs Accepted by MWAA. Parcel 236 and 336 completed 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.

September 30, 2018

Third Party Agreements

Six Intergovernmental Agreements are required for Phase 2:

The status of the six agreements is summarized in the next table.

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 April 27, 2018 for the first quarter of 2018.

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 *September 30, 2018*.

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 Project Management Plan Final Version 2.2 with comments on April 6, 2017.

The draft update of the PMP, Version 3.0 was submitted on March 30, 2018 and PMOC submitted its review comments to MWAA on May 8, 2019. The major concern is that the revised PMP does not indicate the position of Manager of Systems Testing and Commissioning in the organization charts and does not designate the individuals who are to fill the positions. MWAA submitted the revised Draft PMP on June 28, 2018, and is under review by the PMOC.

Quality Program Plan (QPP), Revision 1, was approved by FTA on September 23, 2013 and FTA requested that MWAA update it as needed as Phase 2 continues to move forward through final design and construction.

Safety and Security Management Plan (SSMP), Revision 3 dated February 28, 2017 was approved by FTA on August 8, 2017.

Risk and Contingency Management Plan (RCMP) - MWAA submitted the Final RCMP, Revision 3.0 on January 22, 2018. PMOC had a few comments which MWAA incorporated into the RCMP on February 1, 2018. PMOC recommended FTA approve the RCMP on February 5, 2018. FTA approved the RCMP, Revision 3.0 on March 6, 2018.

WMATA’s Rail Fleet Management Plan (RFMP), Revision 5a was submitted and PMOC provided comments on January 12, 2017. WMATA expects to submit a revised RFMP in early 2018.

C. Project Management Capacity and Capability

(b) (5)

As of September 2018, fourteen full time equivalents were working on Phase 1 which is two more than the August 2018 actual headcount.

MWAA reported the estimated number of full-time equivalents for Phase 2 during September 2018 is 1,442, a decrease of 145 from the August actual count. The estimated September 2018 numbers are indicated in the table below.

MWAA	36
Virginia Department of Rail and Public Transportation (DRPT)	1
Virginia Department of Transportation (VDOT)	5
Washington Metropolitan Area Transportation Authority (WMATA)	36
Project Management Support Services	117
Capital Rail Constructors (CRC) – Package A	898
Hensel Phelps Construction Company (HPCC) – Package B	349
Total	1,442

- **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. (b) (5)

- **Compliance** (b) (5)

- **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 *August 31, 2018*. Dollar values are included for the latest assessment period.

PRIME CONTRACTS	DBE GOAL %	DBE CONTRACTS AWARDED (DBEC/TC)	NEW DBE AWARDS JULY 2018	DBE CONTRACTS AWARDED TOWARD GOAL	DBE GOAL ACHIEVED (DBE Pmts/TC)	DBE PAYMENTS JULY 2018
PreEng - PRELIMINARY ENGINEERING	0%	15.77%	\$0	N/A	15.77%	\$0
PMSS - RAIL OFFICE	25%	20.41%	\$2,941	81.65%	16.73%	\$1,765
PKG A - DESIGN BUILD CONTRACT	14%	15.82%	\$1,110,727	112.96%	9.52%	\$1,945,404
PKG B - RAIL YARD AND MAINTENANCE FACILITY	14%	15.25%	\$588,735	108.94%	11.01%	\$983,220
PKG S - SOIL STOCKPILE RELOCATION	25%	37.53%	\$0	150.11%	21.49%	\$0
PSI - SPECIAL INSPECTION SERVICES	15%	18.37%	\$0	100.00%	16.08%	\$58,134
ROW - REAL ESTATE ACQUISITION	25%	24.49%	\$0	97.95%	10.95%	\$20,052
CHANGE ORDER & CLAIM STATUS	15%	12.22%	\$0	81.48%	12.22%	\$0
TOTALS			\$ 1,702,403			\$ 3,008,574

- **Davis-Bacon Act Verification** – MWAA is reporting Davis-Bacon Act verification activities in the Monthly Progress Report. As of the *August 2018* 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 *August 31, 2018* is shown below. As of *August 2018*, project expenditures total \$1,848,996,277. Based on the budget and expenditures, the total project completion is 74%. This percentage does not include finance charges and contingency.

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 August 2018, Contingency Drawdown Requests (CDR) totaling \$263,206,863 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, and baseline adjustments to reflect the Package G and Package P funding to establish the Baseline Budgets for these new packages.

The following are the expenditures through August 2018 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.

Dulles Corridor Metrorail Project - Phase 2
All Packages Cost Summary by SCC Code, August 2018

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ¹	BASILINE BUDGET ²	EXPENDITURE IN AUGUST	EXPENDITURE TO DATE ⁴	ESTIMATE AT COMPLETION ⁵	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 344,946,326	\$ 167,928,670	\$ 1,802,863	\$ 183,644,589	\$ 204,402,734	\$ 4,722,034
20	Stations	\$ 228,424,057	\$ 231,928,000	\$ 5,308,508	\$ 149,833,349	\$ 231,342,028	\$ 16,865,342
30	Yards, Shops, Administration Buildings	\$ 229,857,097	\$ 213,730,843	\$ 3,224,932	\$ 179,232,878	\$ 231,233,898	\$ 15,929,055
40	Site Work and Utility Relocation	\$ 394,075,868	\$ 571,790,853	\$ 6,000,664	\$ 545,792,550	\$ 704,423,374	\$ 135,521,695
50	Systems	\$ 193,794,178	\$ 215,516,247	\$ 2,362,561	\$ 128,838,566	\$ 224,081,833	\$ 18,926,686
60	Right of Way Acquisition	\$ 58,523,267	\$ 58,600,000	\$ 403,099	\$ 23,019,298	\$ 57,369,200	\$ -
70	Vehicles	\$ 212,765,000	\$ 213,613,334	\$ 9,718	\$ 133,752,665	\$ 212,055,334	\$ -
80	Professional Services	\$ 564,398,592	\$ 577,387,366	\$ 6,099,749	\$ 504,882,383	\$ 625,082,847	\$ 47,531,123
90	Contingency ³	\$ 551,451,179	\$ 527,740,251	\$ -	\$ -	\$ 288,244,316	\$ (239,495,935)
TOTAL PROJECT COST		\$ 2,778,235,564	\$ 2,778,235,564	\$ 25,212,092	\$ 1,848,996,277	\$ 2,778,235,564	\$ -

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 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 Baseline Budget for Contingency is further adjusted by \$33.6 million decrease to fund Packages G and P.

³ All of the contingency resides in SCC 90

⁴ Package A expenditure to date includes \$5 million of retainage released in December 2014 Excludes \$8.4 million in Betterments

⁵ Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests Excludes \$12.3 million in Betterments

Package A Cost by SCC – August 2018

Dulles Corridor Metrorail Project - Phase 2

Package A Project Cost Summary by SCC Code

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ¹	BASELINE BUDGET ²	EXPENDITURE IN AUGUST	EXPENDITURE TO DATE ³	ESTIMATE AT COMPLETION ⁴	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 340,953,449	\$ 163,928,670	\$ 1,802,863	\$ 183,644,589	\$ 200,402,734	\$ 4,722,034
20	Stations	\$ 224,432,514	\$ 223,697,000	\$ 5,308,508	\$ 149,833,349	\$ 223,111,028	\$ 16,865,342
30	Yards, Shops, Administration Buildings	\$ 377,285	\$ -	\$ -	\$ -	\$ -	\$ -
40	Site Work and Utility Relocation	\$ 352,759,752	\$ 509,201,330	\$ 5,382,672	\$ 520,567,252	\$ 631,692,784	\$ 125,473,824
50	Systems	\$ 172,044,132	\$ 188,997,000	\$ 2,341,091	\$ 128,130,140	\$ 197,562,586	\$ 18,926,686
60	Right of Way Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
70	Vehicles	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
80	Professional Services	\$ 87,209,868	\$ 91,953,000	\$ 31,752	\$ 111,940,799	\$ 114,740,211	\$ 22,513,657
90	Contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTALS		\$ 1,177,777,000	\$ 1,177,777,000	\$ 14,866,885	\$ 1,094,116,128	\$ 1,367,509,343	\$ 188,501,543

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 includes \$5 million of retainage released in December 2014 Excludes \$8.4 million in Betterments

4 Estimate at Completion includes Baseline Budget plus any changes funded via contingency drawdown requests and budget transfer requests Excludes \$12.3 million in Betterments

Package B Cost by SCC – August 2018

Dulles Corridor Metrorail Project - Phase 2

Package B Project Cost Summary by SCC Code

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET ^{1,3}	BASELINE BUDGET ²	EXPENDITURE IN AUGUST	EXPENDITURE TO DATE	ESTIMATE AT COMPLETION ⁴	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Yards, Shops, Administration Buildings	\$ 202,977,283	\$ 201,238,645	\$ 3,224,932	\$ 173,568,091	\$ 218,316,200	\$ 15,431,555
40	Site Work and Utility Relocation	\$ 25,772,661	\$ 23,296,613	\$ 10,046	\$ 20,064,796	\$ 31,417,346	\$ 8,027,537
50	Systems	\$ -	\$ 2,772,451	\$ 21,470	\$ 679,820	\$ 2,772,451	\$ -
60	Right of Way Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
70	Vehicles	\$ -	\$ 1,558,000	\$ -	\$ -	\$ -	\$ -
80	Professional Services	\$ 20,530,586	\$ 24,123,291	\$ 49,733	\$ 26,022,137	\$ 27,919,355	\$ 3,905,260
90	Contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTALS		\$ 249,280,530	\$ 252,989,000	\$ 3,306,181	\$ 220,334,844	\$ 280,425,352	\$ 27,364,352

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

Package G – August 2018

Package	Description	Contractor	NTP	SSCD	Budget	Expenditure	Forecast
G	Windscreens	WM Schlosser	8/22/2018	8/11/2020	\$ 6,966,000	\$ -	\$ 6,966,000

Package P – August 2018

Package	Description	Contractor	NTP	SSCD	Budget	Expenditure	Forecast
P	SWM Ponds*	HGS	6/14/2018	6/11/2021	\$ 26,586,161	\$ 587,945	\$ 26,586,161

*Final Completion extends to 6/12/2023 due to additional 2 years of maintenance

Through August 2018, approved change orders totaled \$148,712,265 for Package A. Change orders approved in September 2018 totaled \$3,697,387. The change orders in process in September 2018 total \$40,834,884, and 77 Requests for Change (RFC) are under evaluation totaling approximately \$32,253,157 in Contractor proposals for Package A. In addition, MWA has approved change orders for Package B that total \$21,699,352. In September 2018, change orders in process total \$4,301,196 and 19 Requests for Change (RFC) under evaluation total \$9,501,656. This charge against contingency represents a total of \$260,999,897 or 49.46% of the total Project Contingency of \$527,740,251 at a point where overall Project completion is at 74%.

The total charges against the Project are summarized below.

**Dulles Corridor Metrorail Project - Phase 2
Monthly Cost Report, August 2018**

DESCRIPTION	ORIGINAL BUDGET	BASILINE 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	\$ 1,094,116,128	\$ 1,367,509,343	
Commodity Escalation - Package A	\$ 16,000,000	\$ 16,000,000	\$ -	\$ 16,000,000	
Design Build Main Line - Package G		\$ 6,966,000	\$ -	\$ 6,966,000	
Design Build Main Line - Package P		\$ 26,586,161	\$ 587,945	\$ 26,586,161	
Subtotal Design-Build Main Line	\$ 1,193,777,000	\$ 1,227,329,161	\$ 1,094,704,073	\$ 1,417,061,504	
Yard - Package B + Yard Soil Preparation - Package S	\$ 269,280,530	\$ 258,939,297	\$ 226,785,158	\$ 286,875,666	
Commodity Escalation - Package B	\$ 4,000,000	\$ 4,000,000	\$ -	\$ 3,928,000	
Subtotal Design-Build Yard	\$ 273,280,530	\$ 262,939,297	\$ 226,785,158	\$ 290,803,666	
Design-Build Contracts Total	\$ 1,467,057,530	\$ 1,490,268,458	\$ 1,321,489,231	\$ 1,707,865,170	77%
Right of Way					
Parcels & Project Management	\$ 58,600,000	\$ 58,600,000	\$ 23,019,298	\$ 57,369,200	
Right Of Way Total	\$ 58,600,000	\$ 58,600,000	\$ 23,019,298	\$ 57,369,200	40%
WMATA Agreement					
Vehicles	\$ 205,868,200	\$ 205,868,200	\$ 133,752,665	\$ 205,868,200	
WMATA Non Revenue Vehicles	\$ 9,250,751	\$ 9,620,781	\$ 6,801	\$ 9,620,781	
WMATA Project Management and Other Costs	\$ 90,205,767	\$ 89,835,737	\$ 32,280,639	\$ 89,835,737	
WMATA Agreement Total	\$ 305,324,718	\$ 305,324,718	\$ 166,040,104	\$ 305,324,718	54%
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	\$ 54,659,159	\$ 66,471,913	
Project Management Support	\$ 140,000,000	\$ 140,000,000	\$ 151,117,025	\$ 156,560,000	
Other Costs ¹	\$ 116,182,137	\$ 116,682,137	\$ 59,405,404	\$ 121,400,247	
Airports Authority Services Total	\$ 320,802,137	\$ 321,302,137	\$ 265,181,588	\$ 344,432,160	77%
Contingency					
Contingency Total	\$ 551,451,179	\$ 527,740,251		\$ 288,244,316	
TOTAL PROJECT COSTS	\$2,778,235,564	\$2,778,235,564	\$1,848,996,277	\$2,778,235,564	74%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 Packages A, G, P, 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 Baseline Budget for Contingency is further adjusted by \$33.6 million decrease to fund Packages G and P

4 Package A expenditure to date includes \$5 million of retainage released in December 2014 Excludes \$8.4 million in 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 \$12.3 million in Betterments

Funding Sources

Primary funding for Phase 2 (excluding parking facilities) comes from *Congestion Mitigation Air Quality (CMAQ) Grant (0.40%)*, MWAA (8.40%), Fairfax County (18.57%), Loudoun County (9.83%), Commonwealth of Virginia (11.64%), Dulles Toll Road (49.01%), and the Northern Virginia Transportation Authority (2.16%). *The CMAQ Grant was awarded in May 2018.* 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%
Congestion Mitigation Air Quality (CMAQ) Grant (awarded)	\$ 7,401	0.40%
CMAQ (to be awarded)	\$ 3,668	
Fairfax County	\$ 515,910	18.57%
Loudoun County	\$ 273,066	9.83%
MWAA (Aviation Funds)	\$ 233,244	8.40%
MWAA (Dulles Toll Road)	\$ 1,361,647	49.01%
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. The 2018 TIFIA Financial Plan was submitted on March 30, 2018.

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 *September 1, 2018* Project Master Schedule dated October 5, 2018, as provided by MWAA. *These dates are based on CRC's August 2018 Monthly Schedule Update which was "Not Accepted" by MWAA. CRC's August 2018 Schedule Update reflects a 86 day delay to the Project 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	01/14/19
Package A – Complete Aerial Guideway Structure Construction	12/05/18
Package A – Complete At-Grade Guideway Structure Construction	07/09/18(A)
Package A – Complete Station Build-out	07/15/19
Package A – Complete Systems Installation	07/17/19
Fairfax County – Construction of Parking Facilities Complete	05/31/19
Loudoun County - Construction of Parking Facilities Complete	01/01/20
Package A – Forecasted Substantial Completion	11/01/19
Package B - Complete Yard Systems and Commissioning	09/11/19
Package B – Forecasted Substantial Completion	03/10/20
Complete WMATA Operations Readiness Testing	12/31/19
Complete WMATA Revenue Operations Acceptance Testing	04/30/20
Revenue Service Date (RSD)	04/30/20
Project Final Acceptance	07/30/20

Critical Path

CRC's Primary Critical Path as reflected in their *August 2018* schedule update runs through *modifications to the Wiehle Station for the Phase 1 tie-in, continuing through dynamic testing in the east segments. MWAA did "Not Accept" this schedule update representing 86 days delay to the Project completion.*

Important Activities – 90-Day Look Ahead

- *CRC to complete construction of the Aerial Guideway Structures.*
- *CRC to complete design (including design changes).*

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 September 2018, MWAA conducted an audit of CRC’s Care and Maintenance of installed equipment.

MWAA typically submits a rolling six month Audit Schedule at each monthly update meeting. *The most recent QA Audit Schedule for October 2018 through March 2019 for Package A is shown below.*

DULLES CORRIDOR METRORAIL PROJECT
Phase 2, Package A
QA Audit and Surveillance Schedule
October 2018 through March 2019

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/Surveillance	Lead
10/25/18	A	CRC Survey Audit	N	MWAA
11/15/18	A	CRC Construction Safety and Security Plan	N	MWAA
12/13/18	A	CRC Initial and Follow-up Inspection	N	MWAA
1/24/19	A	CRC ATC	N	MWAA
2/21/19	A	PSI Special Inspection	N	MWAA
3/21/19	A	<i>CRC’s Care and Maintenance of installed equipment</i>	N	MWAA

During September 2018, MWAA did not perform any audits or surveillances of Hensel Phelps for Package B. The most recent QA Audit Schedule for November 2018 through March 2019 for Package B is shown below.

DULLES CORRIDOR METRORAIL PROJECT

Phase 2, Package B

QA Audit and Surveillance Schedule

October 2018 through March 2019

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/ Surveillance	Lead
11/15/18	S	Post Installation Checkout Testing	Y	MWAA/HP
1/15/19	S	Package B Dynamic Testing Readiness	Y	MWAA/HP
3/21/19	S	<i>M.C. Dean Quality Verification Records</i>	Y	<i>MWAA/HP</i>

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 the Accident/Injury Statistics be provided by the fifteenth of each month, ahead of each monthly progress meeting. As of *September 2018*, CRC has recorded 7,063,062 hours worked with 258 first-aid cases, 40 OSHA recordable cases of which two resulted in lost time, 279 incidents, 45 utility hits, five environmental spills, 29 vehicular accidents, 38 property damage claims (>\$1500), and six lost time days. *Four first aid cases, one recordable OSHA Cases (non-lost time), one utility hits, 16 incidents, and four property damage claims occurred during September 2018.*

HPCC has recorded 1,615,864 hours worked with thirteen OSHA recordable (non-lost time) cases, one OSHA Recordable (lost time) case with twenty-eight lost time days, seventeen first-aid cases, one vehicular accident and 80 incidents. There were no occurrences during September 2018.

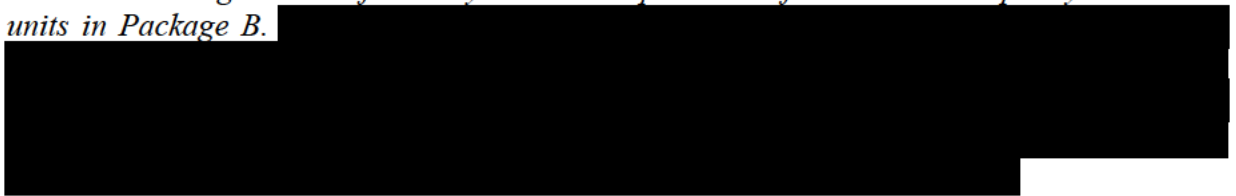
Safety and Security Working Group (SCWG) is the entity charged with the development of Design and Construction Conformance criteria, checklists and hazard analysis for the Project. This group meets on a monthly basis and continues to function satisfactorily. WMATA is responsible for the Threat and Vulnerability 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

MWAA is seeking a waiver from Buy America requirements for the ductless split system HVAC units in Package B.



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. The 64th railcar was conditionally accepted on October 13, 2017.

Project Risks

The Final RCMP, Revision 3.0 was submitted on February 1, 2018, and the PMOC recommended FTA approval on February 5, 2018. FTA approved the RCMP, Revision 3.0 on March 6, 2018.

Budget Risks: MWAA 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 had incurred a thirteen month delay, essentially all the original forecast Project Schedule Contingency (14 months) has been consumed. Analysis performed on the revised baseline schedule with 13 months of extension and actual progress to date revealed that ten months of additional schedule contingency would suffice.

Action Items

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

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
2	2A	MWAA to update PMP.	PMP Version 3.0 should be reviewed and updated.	<i>N</i>	<i>N</i>	<i>N</i>	MWAA submitted Draft PMP, Version 3, to FTA on March 30, 2018. PMOC submitted comments to MWAA on May 8, 2018. MWAA submitted the revised draft on June 28, 2018, which is under review.	<i>R</i>

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
DCMP	Dulles Corridor Metrorail Project
DCR	Design Change Request
DE	Dominion Energy
DEQ	Department of Environmental Quality
DHR	Department of Historical Resources
DIAAH	Dulles International Airport Access Highway
DIDB	Disparate Impact and Disproportionate Burden
DRPT	Department of Rail and Public Transportation (Virginia)
DTP	Dulles Transit Partners, LLC
DTR	Dulles Toll Road
DVP	Dominion Virginia Power (now called Dominion Energy)
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
IFB	Invitation for Bid
IFP	Issued for Permit
IPP	Integrated Permit Package
LPA	Locally Preferred Alternative
MWAA	Metropolitan Washington Airports Authority
MWB	Maintenance of Way Building
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
RFQ	Request for Qualifications
RFQI	Request for Qualifications Information
RFP	Request for Proposal
RFI	Request for Information
RBS	Revised Baseline Schedule
RSD	Revenue Service Date
SCC	Standard Cost Category
SCWG	Safety/Security Working Group
SHPO	State Historic Preservation Office
SIB	Service and Inspection Building
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
TBS	Tie-Breaker Station
TIA	Time Impact Analysis
TOC	Tri-state Oversight Committee
TPB	Transportation Police Building
TPSS	Traction Power Substation
TWF	Train Wash Facility
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation
VSF	Vehicle Storage Facility
VSMP	Virginia Stormwater Management Program
WB	Warehouse Building
WFC	West Falls Church
WHB	Warehouse Building
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: Andre Anderson, 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.

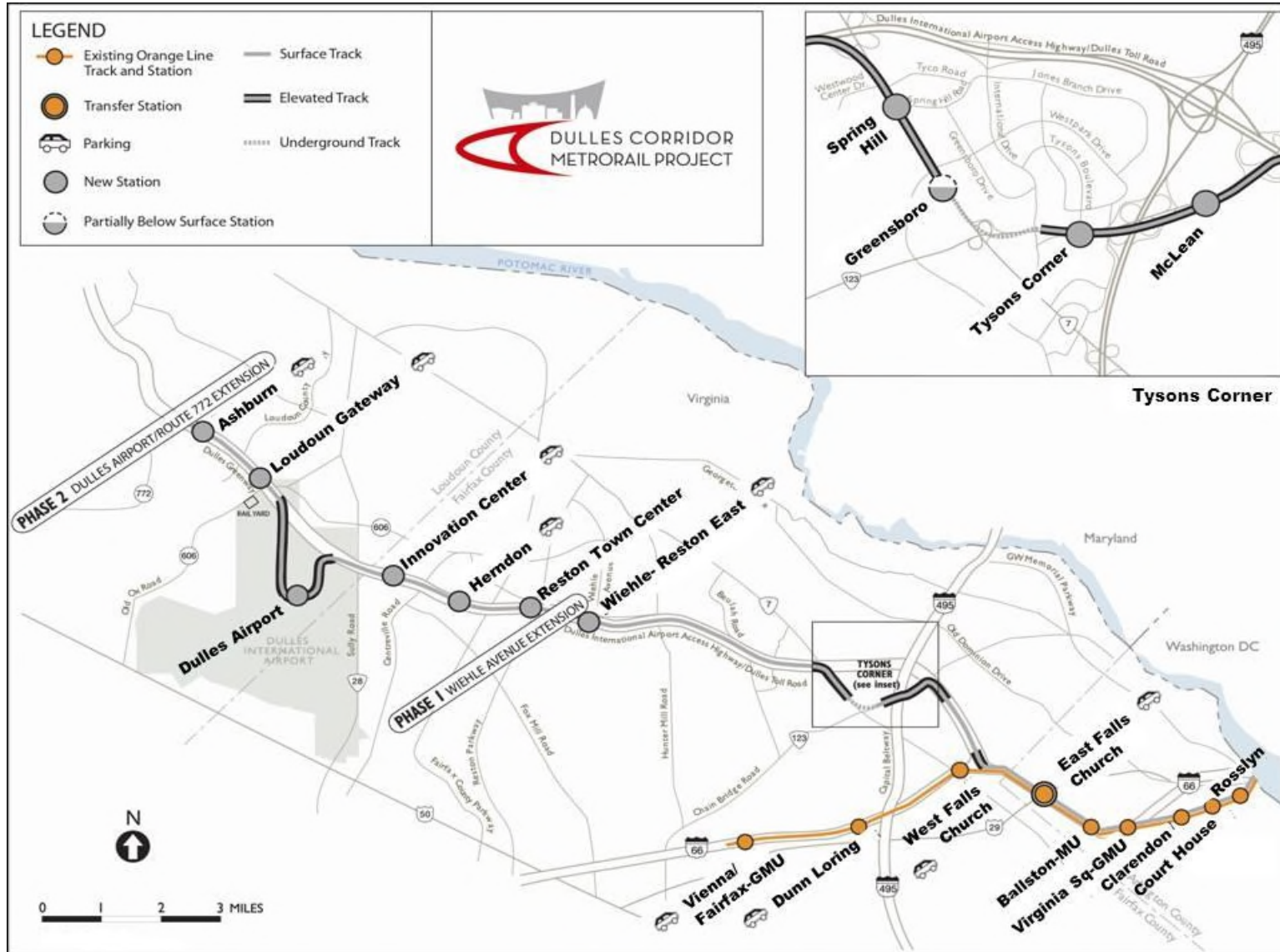
Current Delivery Milestone Schedule

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
78%	Percent Work in Place Complete at the date of this report (<i>earned value</i>)
68.49%*	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
\$1,848,996,277	Amount of expenditures at the date of this report from a total project budget of \$2,778,235,564
74%	Percent Complete expenditures at the date of this report. (This percentage does not include finance charges and contingency)
\$288,244,316	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 2017	Approved on August 8, 2017	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.

<p>Safety and Security Certification Plan</p>			<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>
<p>System Safety Program Plan</p>	<p>January 2013</p>		<p>WMATA's 2014 SSPP is effective January 2014 and approved by TOC on April 25, 2014.</p>
<p>System Security Plan or Security and Emergency Preparedness Plan (SEPP)</p>	<p>3/2012</p>	<p>N/A</p>	<p>WMATA submitted a revised SEPP to TOC in March 2012, which the TOC approved on April 23, 2012.</p>

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	<i>WMATA's 2018 SSPP was approved by the FWSO on June 22, 2018.</i>
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 June 4, 2018.
Has the grantee submitted its safety certification plan to the oversight agency?	Y	
Has the grantee implemented security directives issues by the Department 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	MWAAs 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. SSMP, 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 November 2017			
Risk ID	Event Description	Primary Risk Mitigation	Risk Rating
80.03.C.2	Request for Equitable Adjustment Part 2 (REA-2) (for changes included in CO-66 and for changes after CO-66 that have not been finalized) (Cumulative claims)	The notice of change was for information only and has not been submitted with an associated schedule in P6 native format for evaluation. Will review details once the native schedule file is submitted. (b) (5)	25
30.C. 185 NEW	Installation of gravity Sewer	Restratgeize the execution to ensure timely execution and dedicated crew to do this work.	25
80.03.C.243 NEW	Overall total cost claim by CRC	(b) (5)	21
80.08.C.196	WMATA does not provide adequate Vehicles availability, adequate and qualified staff to witness the test, and operators to complete testing, start-up or final acceptance in a timely manner.	1) Started tiger team meetings to coordinate needed efforts from all stakeholders. 2) Working with WMATA on lessons learned from Phase 1 which will be implemented on Phase 2 3) WMATA is retiring old rail cars so ample number of retired cars will be available to support the testing 4) Working with WMATA to utilize the WFC annex facility for repairs & maintenance which will minimize travel delays to Phase 2 site.	21
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. Negotiating to minimize cost impact, working with MEC to reduce schedule impact	20
80.03.C.3	Recovery of Revised Baseline Schedule (for changes post CO-66) (Acceleration of 109 days)	Working to avoid further impacts that may delay the schedule. (b) (5)	20
80.03.C.242 NEW	CRC subcontractors overhead claims	(b) (5)	20
20.02.C.1	Screenwall Glazing at Dulles Station	Currently in procurement for competitive bidding	20
80.R.112	Future WMATA (through its granted authority) requires changes to the scope post design or award to the DB.	The Project Team is to establish funding contingency for unanticipated or unforeseen WMATA actions impacting project(s) scope, and monitor/manage same in conjunction with DB and WMATA.	20
80.02.D.241	Repurposing of the TPB - Design	1) MWAA formally advised HP to cease procurement of specialized equipment and materials associated with the police function in the TPB. 2) WMATA to identify which design elements can be deleted or modified to meet WMATA's intended use of the facility. 3) Exclude the TPB from the contractual SSCD, but, complete the RTRA units in the building by ORD. 4) Exclude the TPB from the LEED Silver Certification.	20
30.01.C.244 NEW	Repurposing of the TPB - Construction	1) MWAA formally advised HP to cease procurement of specialized equipment and materials associated with the police function in the TPB. 2) WMATA to identify which design elements can be deleted or modified to meet WMATA's intended use of the facility. 3) Exclude the TPB from the contractual SSCD, but, complete the RTRA units in the building by ORD. 4) Exclude the TPB from the LEED Silver Certification.	20
* Proposed NEW item and Top Ten Risk			

APPENDIX F – PMOC Evaluation Team

Michael Radbill, PE, F.ASCE, Program Manager

Mr. Radbill is responsible for oversight of this Task Order. He was assigned to this Task order at the end of March 2012 when he joined Hill. Mr. Radbill has over 40 years of technical and management experience in the construction of federal, state, local, and private projects, which types include public transportation, power generation, petrochemical, correctional, military, aviation, commercial, hotel, and others. Skills and management accomplishments include project manager for owner/contractor; analyzing and reporting on quality issues on FTA funded urban transit, and petrochemical construction projects; course designer and principal instructor for FTA sponsored project management course; instructor for FTA sponsored quality assurance/quality control (QA/QC) training course; reviewer for two FTA sponsored Guidelines; drafting and editing general and special conditions of the contract for FTA funded public transportation projects; lead civil field engineer for contractor on construction of fossil and nuclear power plants; developing, updating, and analyzing critical path method schedules; facilitating partnering for construction projects; testifying as an expert at trial regarding delays and damages; arbitrating construction disputes; writing and updating design and construction contracts and specifications.

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).

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.

Judy R. Mewborn, CCM, Construction Management Manager

Ms. Mewborn has over 30 years of experience in the construction field performing such duties as capital program manager, senior project/construction manager, project control, facilities condition assessment, design management, surveying, planning, space programming, and the production of design and construction documents. Her experience also includes acting as a client representative Project Manager on federal and local government projects. Additional experience includes project management on educational, hospitality and commercial projects, as well as designer and project assistant on residential projects.