

**COMPREHENSIVE MONTHLY REPORT**

**July 2015**

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

Metropolitan Washington Airports Authority  
Washington, DC

September 10, 2015

**PMOC Contract Number:** DTFT60-14-D-00011

**Task Order Number:** 005, **Project Number:** DC-27-5331, **Work Order No.** 01

**OPs Referenced:** 01, 25

**Hill International, Inc.**

One Commerce Square  
2005 Market Street, 17<sup>th</sup> Floor  
Philadelphia, PA 19103

**PMOC Lead:** [REDACTED]

**Length of Time PMOC Assigned to Project:** 2 years

**Length of Time PMOC Lead Assigned to Project:** 2 years

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1. PROJECT DESCRIPTION .....	1
2. PROJECT STATUS SUMMARY.....	1
3. CORE ACCOUNTABILITY INFORMATION.....	3
4. MAJOR PROBLEMS/ISSUES .....	3
<b>MAIN REPORT .....</b>	<b>4</b>
1. GRANTEE’S CAPABILITIES AND APPROACH .....	4
a. <i>Technical Capacity and Capability</i> .....	4
b. <i>Project Controls</i> .....	5
c. <i>Compliance</i> .....	5
2. PROJECT SCOPE .....	9
a. <i>National Environmental Policy Act (NEPA)</i> .....	9
b. <i>Third Party Agreements</i> .....	9
c. <i>Design Status</i> .....	10
d. <i>Bidding and Construction Status</i> .....	10
e. <i>Other Phase 2 Contracts</i> .....	17
f. <i>Real Estate and Project Development</i> .....	18
g. <i>Utility Coordination</i> .....	21
h. <i>Vehicle Procurement</i> .....	21
3. PROJECT MANAGEMENT PLAN AND SUB-PLANS .....	21
4. PROJECT SCHEDULE.....	22
a. <i>Important Activities – 90-Day Look Ahead</i> .....	23
5. PROJECT COST .....	23
a. <i>Monthly Cost Report – April 2015</i> .....	25
b. <i>Funding Sources</i> .....	25
c. <i>TIFIA Funding Status</i> .....	26
6. PROJECT RISKS .....	26
7. ACTION ITEMS .....	29
<b>APPENDICES.....</b>	<b>30</b>
APPENDIX A – LIST OF ACRONYMS .....	31
APPENDIX B – PROJECT OVERVIEW AND MAP .....	33
APPENDIX C – PROJECT MAP.....	34
APPENDIX D – MWA SAFETY AND SECURITY CHECKLIST .....	36
APPENDIX E – PMOC TEAM PERFORMING THIS REVIEW.....	41

## EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *August 12, 2015* to conduct the monthly progress meeting for work performed in *July 2015* on 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**

MWAA, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), proposes to implement a 23.1-mile rapid transit system in the Dulles Corridor of Northern Virginia. The proposed corridor follows the alignment of the Dulles International Airport Access Highway (DIAAH), the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. MWAA is implementing the LPA in two phases as described below.

Phase 1 of the Project (Initial Operating Segment), which went into revenue service on July 26, 2014, provided the construction of the initial 11.7 miles of the rail project from the existing Metrorail Orange Line just east of the West Falls Church (WFC) Station to a station constructed at Wiehle Avenue with a total project cost of \$3.142 billion.

Phase 2 of the Project 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, Route 606 and 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. According to the last approved Package A schedule (March 2014 Schedule Update), Phase 2 Revenue Service would begin in early 2019. However, MWAA announced on April 27, 2015 that they anticipated a delay of thirteen months to the Project.

### **2. Project Status Summary**

- **Procurement Status** – Phase 2 is divided into several packages that were procured separately: Package A includes the final design and construction of 11.4 miles of the rail line, stations and systems elements; Package S (the Advanced Earthwork Contract) *includes* the removal and relocation of the Phase 1 soils stockpiled at the Maintenance Facility site associated with Package B; Package B includes the final design and construction of the WMATA Maintenance Facility at the northwest corner of the Dulles Airport property; and Parking Facilities (formerly Package C) includes the design and construction of the five parking facilities at the stations in Fairfax and Loudoun counties. The parking facilities are

outside the scope of Phase 2. Package S was substantially completed on December 8, 2014 with the remaining punch list items completed on May 15, 2015.

**Design Progress** –*During July 2015, the design of Package A was reported at 88% complete and the Issued for Permit (IFP) packages were reported to be 92.3% complete. At the end of July 2015, two 90% packages, three 100% packages and six IFP packages remain to be submitted by CRC. Of the 69 Issued for Construction (IFC), 16 are yet to be completed with 10 due by the end of August 2015. All the remaining packages are expected to be submitted by the end of December 2015.*

*Package B design is at the overall 75% complete level. The 100% Integrated Permit Package (IPP) #0 has received the AHJ permit. IPP #1 and IPP #2 are undergoing the comment resolution process.*

- **Construction Progress** –*Package A construction is 6% completed. Construction of the aerial section through the Dulles International Airport with the installation of 108 (55% of total) drilled shafts, pouring of 102 (52% of total) columns and pouring 79 pier caps (43% of total) having been completed through the end of July 2015. Work continues modifying the Dulles International Airport Access Highway (DIAAH) and Dulles Toll Road (DTR) to enable the construction of the Innovation Center, Herndon and Reston Stations. The contractor has begun directional boring to install the required systems and utilities under the DTR and DIAAH. The jack and bore work at the Innovation Station and Herndon Station has been difficult due to the type of rock encountered. Contractor continues to install ductbank and manholes for the 34.5 KV traction power feeders along the DIAAH. Package B construction activity began in July 2015 with the start of excavation in the Laydown Area #11.*
- **Rail Car Procurement** – On August 15, 2012, MWAA authorized WMATA to amend their contract with Kawasaki to exercise the option for an additional sixty-four 7000 Series railcars for Phase 2. WMATA’s letter of August 30, 2012 to MWAA confirmed the amendment to the Kawasaki Contract for the Phase 2 railcars. *The latest schedule from Kawasaki dated July 25, 2015 continues to show final delivery for the last Phase 2 vehicle no later than July 19, 2017.*
- **Phase 1 Closeout** – MWAA has announced that there is a \$76 million increase to the non-federal portion of the Project Budget. The major portion of the increase is for the global settlement with Dulles Transit Partners (DTP) for the design-build contract at \$45.9 million. In addition, the increase includes closeout of WMATA open issues which include: ATC Loss of Speed Readout Study, Heat Tape Upgrades, Art-In-Transit, Traction Power Remote Terminal Units and Remaining Punch List Items. It is anticipated that all of these items will be completed by December 31, 2015. In addition, there are remaining punch list items from VDOT and Fairfax County. Most of these items are expected to be completed by the end of 2015. *The major outstanding items are the establishment of the final VDOT Punch List, resolution of the curb cut ADA ramps issue and the resolution of the Old Meadow Road Realignment issue with VDOT. The last issue entails the performance of a cost/benefit analysis to determine what the resulting work will be. Any resulting work is expected to be completed by December 2016. The closeout of the FFGA is expected to occur six to eight months following payment of final Project costs which is expected to extend until late 2016 or early 2017.*

### 3. Core Accountability Information

#### a. Cost

	Package A	Package B	Package S
Original Budget	\$1,177,777,000	\$249,280,530	\$20,000,000
Baseline Budget	\$1,177,777,000	\$252,989,000	\$5,950,297
Estimate at Completion	\$1,232,049,959	\$253,090,000	\$6,250,297
% Complete - Expenditures	22	7.6	97.8

#### b. Schedule

	Package A	Package B	Package S
Original Substantial Completion Date	7/7/ 2018	8/17/2018	12/8/2014
Current Forecast Completion Date	8/9/2019	10/23/2018	12/1/2014(A)
% Time expended	31.5	18.75	100

#### c. Contingency

Original Total Project Contingency	\$551,451,179
Current Total Project Contingency	\$504,689,181

### 4. Major Problems/Issues

- 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.
- The additional construction costs related to the Stormwater/Early Design Changes and attendant increased overhead costs have yet to be determined. MWAA has requested additional information from CRC and expects to reach cost resolution by the end of 2015.
- Cracking has appeared in the top flange of the 96" precast concrete girders which has resulted in the cessation of production of the 100' long girders until the cause and resolution is determined.
- WMATA has objected to the use of the prefabricated enclosures for the Tie Breaker Stations that provide access to the back of the switchgear via an external door. The resolution of this issue has not yet been reached although it has been over eight months since the issue was raised. This could have a negative impact on the Project's budget and schedule.
- The Package A contractor has encountered harder rock than anticipated which has forced him to go to Directional Boring rather than using a Jack and Bore Procedure. *The contractor has redesigned the utility connections at stations to mitigate the impact.*
- The delay to the Package A Contract will have a negative schedule impact on the Package B Contractor who will have to tie-in the Maintenance Facility lead and systems to the mainline. Package B Contractor indicates the impact is eight months.

# MAIN REPORT

## 1. Grantee's Capabilities and Approach

### a. Technical Capacity and Capability

FTA's letter of July 8, 2015 approved PMP Version 2.0 and requested that it be updated prior to September 30, 2015 to reflect the recent organizational changes. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures.

The MWAA Manager of Quality Assurance/Quality Control (QA/QC) and Safety position has been split into two separate positions; Manager of QA/QC and Manager of Safety. William Green has been selected for the position of Manager of QA/QC and started in March 2015. The Manager of QA/QC reports directly to the VP Engineering. MWAA added two additional QA/QC lead positions to increase the level of QA/QC review on the Phase 2 Project and be more proactive in the field. Ronnie "Joe" Cook has been selected for the lead QA/QC position for Package A and *started* on June 16, 2015. Henry Gilbert was selected to fill the lead QA/QC position for Package B and started on May 19, 2015. The position of Deputy Director of Package A has been re-advertised and a selection is *now* expected to be made *by the end of August 2015*.

The Manager of Safety position closed on June 13, 2014 and David Law started as Manager of Safety on December 1, 2014. Mark Webster has been selected as the Package A Construction Safety and Security Manager. The advertisement to fill the Package B Construction Safety and Security Manager has been advertised. Mark Webster is also acting in this position until it is filled.

MWAA advertised for the position of Director of Project Controls and Contracts for Phase 2. Joseph (Jay) Grantham, PE started as Director of Project Controls and Contracts in March 2015. The PMOC will continue 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 *July 2015*, *thirty* full time equivalents were still working on Phase 1. These numbers *show a decrease of one* from the *June 2015* report.

MWAA reported that the number of full-time equivalents for Phase 2 during *July 2015* is *770*, *an decrease of 21* from *the June 2015 total of 791*. This is composed as follows: MWAA – 28, Virginia Department of Rail and Public Transportation (DRPT) – 1, Virginia Department of Transportation (VDOT) – 2, Washington Metropolitan Area Transit Authority (WMATA) – 33, Project Management Support Services (PMSS) – 105, Capital Rail Constructors (CRC), Package A – 533, Hensel Phelps Construction Company (HPCC), Package B – 68.

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.

## b. Project Controls

MWAA has developed project management procedures with regard to monitoring and controlling project scope, quality, schedule, cost, contingency management, and safety. FTA's letter of July 8, 2015 approved PMP Version 2.0 and requested that it be updated prior to September 30, 2015 to reflect the recent organizational changes. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures. *An advanced copy of the revised organization chart indicates that the Safety and Security Manager and the QA/QC Manager will report to the Executive Project Director. Previous organization charts had these two positions reporting to the Vice President of Engineering, the position to whom the Executive Project Director reported. The Vice President of Engineering position has been eliminated. PMOC has concerns that the proposed arrangement compromises the independence of these positions and that they should report to a position independent of responsibility for the Project.*

## c. 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.
  - The PMSS Contract has a goal of 25%.
  - The Package A Contract has a goal of 14%.
  - The Package B Contract has a goal of 14%.
  - The Package S Contract has a goal of 25%.
  - The Special Inspection Contract has a goal of 15%.

MWAA continues to review and verify reports DBE Subcontract awards and payments.

*Through the last assessment on July 31, 2015, DBE participation (subcontracts awarded toward the contractual DBE Goal) for each Prime Contract is:*

- *PMSS has subcontracted 79% of its goal,*
- *Package A has subcontracted 94% of its goal,*
- *Package B has subcontracted 20% of its goal,*
- *Package S has subcontracted 145% of its goal, and*
- *Special Inspections has subcontracted 100% of its goal.*

*The total new DBE awards for July 2015 were \$8,245,211.*

*Through the last assessment on July 31, 2015, the Actual DBE Participation (payments to DBE Subcontractors toward the Contractual DBE Goal) for each Prime Contract was:*

- *PMSS is 59%,*
- *Package A is 10%,*
- *Package B is 1.11%,*
- *Package S is 85%, and*
- *Special Inspections is 16.98%.*

*Total DBE payments for July 2015 were \$1,101,611.*

During the October 2014 meeting, MWAA reported that the Package S Contractor might fall short of meeting its goal of 25% by less than 10%. The Package S Contractor has shown improvement and *as of July 2015* has achieved *21.34% Actual DBE Participation*. MWAA anticipates that the Package B DB Contractor will exceed its DBE goal, thus attaining the overall Project Goal of 25% of the federal participation cost for Phase 2.

- **Davis-Bacon Act Verification** – MWAA is reporting Davis-Bacon Act verification activities in the Monthly Progress Report. As of the MWAA *July 2015 Monthly Progress Report*, DBA compliance monitoring is ongoing including the review of certified payroll reports and Prime Contractor requests for additional classifications and wage rates.
- **Title VI** – FTA stated that Fairfax and Loudoun Counties have to secure approved Title VI Plans because they will be recipients of TIFIA loan funds for the project.

Fairfax County: Fairfax County reported that the Fairfax County Board of Supervisors approved the Title VI Plan on July 9, 2014. Subsequently, the Fairfax County Board of Supervisors approved the Fairfax County Service Equity Analysis on July 29, 2014 and the Title VI Plan was submitted to FTA for review, prior to the August 1, 2014 expiration date of the interim plan. At the December 2014 meeting, Fairfax County reported that they had received FTA approval. Fairfax County is working on some of the steps required by FTA, and anticipates that it will then take an additional 12 to 18 months to implement the plan.

Loudoun County: On January 16, 2014, the Loudoun Board of Supervisors approved adoption of the Title VI Plan. Loudoun County received FTA concurrence on the Title VI Plan on January 23, 2014 and Loudoun County is in the process of implementing its Plan. On March 10, 2014, the Loudoun Board of Supervisors held a Transit Summit to look at the future configuration of the entire bus system in Loudoun County. Any changes in service will be incorporated into the Title VI Plan. Loudoun County continues to implement their Title VI Plan.

During the July 9, 2014 meeting, Loudoun County reported that the existing operator, Veolia Transportation, won the contract for local bus service. The recommendation for award was approved, and the contract executed by the Loudoun County Board of Supervisors in July 16, 2014.

MWAA: MWAA submitted the updated Title VI Plan to FTA on October 1, 2014. FTA responded to the submission on January 12, 2015, and placed the plan “In Review” status and requested some additional information. The Title VI Plan was

approved at the MWAA Board of Directors on March 18, 2015 and was forwarded to FTA on April 1, 2015. *During the August 12, 2015 meeting, it was noted that the Title VI Plan was still under FTA review.*

- **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 *July 2015*, CRC has recorded *1,325,481* hours worked with *thirteen* first-aid cases, three OSHA recordable cases, *thirty-six* incidents, *nine* utility hits, *fifty-two* environmental spills, four vehicular accidents, one property damage claim (>\$1500) and one lost time case. *Three first aid case, two incidents, one utility hit and one environmental spill occurred during the month of July 2015.*

ACMC has recorded *51,024* hours worked with four incidents and four vehicular accidents and zero hours of lost time; there were no incidents or vehicular accidents during the month of *July 2015*. *All field activities ceased in May 2015.*

*HPCC has recorded 94,775 hours worked with one OSHA Recordable (Non-Lost Time) Case occurring in July 2015.*

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

*During July 2015, MWAA conducted audits of the SOP 1.11 Cloud Plans (seven observations and three recommendations) and CRC Design Quality Management Plan (four observations and two recommendations). Both audit reports are due in August 2015.*

*MWAA submits a rolling six month Audit Schedule at each monthly update meeting. The most recent QA Audit Schedule for July through December 2015 is shown below from the August 12, 2015 Update Meeting.*

**DULLES CORRIDOR METRORAIL PROJECT**  
**Phase 2, Package A**  
**QA Audit and Surveillance 6 Month Schedule**  
*August 2015 through January 2016*

<b>Tentative Date</b>	<b>Audit (A) Surveillance (S)</b>	<b>Organization/Activity</b>	<b>Joint Audit/ Surveillance</b>	<b>Lead</b>
8/25/15	A	<i>CRC Right- of-Way Acquisitions</i>	N	MWAA
9/2/15	A	MWAA Internal Audit	N	MWAA
9/7/15	A	Parsons Procedures Shop Drawing Review Process	Y	MWAA
9/21/15	A	Dewberry Civil Design	Y	MWAA
10/5/15	A	Dewberry Facilities	Y	MWAA
10/26/15	S	CRC Subcontractor Non-Conformance Control System	Y	MWAA
10/31/15	A	<i>Parsons Design Audit</i>	Y	<i>MWAA</i>
11/9/15	S	Banker Steel	Y	MWAA
11/23/15	A	MWAA Special Inspections	N	MWAA
12/8/15	A	Survey Audit	Y	CRC
12/17/15	A	<i>CRC Safety and Security Certification Program</i>	N	<i>MWAA</i>
12/28/15	S	High Steel Structures	Y	MWAA
1/4/16	A	<i>SOP 1.14-IFP to IFC Process</i>	Y	<i>CRC</i>

Cracking has appeared in the top flanges of the 96” deep girders which has caused a cessation of production of the 100’ long girders until the cause and resolution is determined. CRC and MWAA have each hired their own consultants to evaluate the problem and determine a path forward. *At the August 12, 2015 update meeting, MWAA indicated that although the respective reports have not been finalized, the contributing factors are the design configurations of the reinforcing steel and pre-stressed travel strands in the top flange. Also contributing to the cracking is the concrete mix design content, the bonded length of the travel strands and the pre-stressing load on the travel strands.* MWAA indicated that the four girders that have been placed will be removed and scrapped. MWAA noted that the 96” deep girders

are not on the Project's critical path. *During the August 12, 2015 meeting, MWAA indicated that similar cracking issues have occurred in the 84" deep girders.*

- **Labor Agreement** – Only MWAA was required and has signed a 13(c) agreement with the Department of Labor for the TIFIA loan.
- **Community Outreach** – MWAA provided its Phase 2 Communications and Community Outreach calendar for *June 2015*. The Phase 2 outreach efforts continue *with 145 community outreach activities held during the month of July 2015: including 49 business outreach efforts, 24 traffic and construction-specific notifications and 20 intergovernmental activities.* MWAA continues to focus activities around the Dulles Airport with Airport tenants and communities beyond its perimeters, targeting the larger employers.

Based on lessons learned from Phase 1, the community outreach team is meeting with the property owners as well as their tenants, since the property owners do not always communicate with their tenants. The tenants are those usually most impacted by construction disruptions. MWAA is also notifying the public of project completion expectations.

## **2. Project Scope**

Phase 2 of the Project will provide 11.4 route miles of new track from the interim terminus at Wiehle Avenue Station through Dulles Airport to a terminus in eastern Loudoun County. Phase 2 includes six new stations (Reston Town Center, Herndon, Innovation Center, Dulles Airport, Route 606 and Route 772). Phase 2 also includes a Maintenance Facility (maintenance and storage yard facility) at Dulles Airport, wayside facilities, including traction power substations, tiebreaker stations, and stormwater management ponds, along the alignment, five new Metrorail parking facilities at four stations to provide 8,900 parking spaces, and sixty-four new rail cars.

### **a. 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.*

### **b. 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.

MWAA provided a summary of the status of the agreements below.

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.

**c. Design Status**

Preliminary Engineering is complete for Phase 2. Final design and construction will be performed under the DB contracts for Package A as well as for Package B. Fairfax and Loudoun Counties will manage the final design of the parking facilities included in Parking Facilities (formerly Package C). The Counties confirmed their commitment to deliver those elements as a condition precedent to their TIFIA loans.

**d. Bidding and Construction Status**

- **New Mass Transit Line (Package A)**

Procurement: At the opening of proposals on April 19, 2013, CRC, a joint venture consisting of Clark Construction Group, LLC and Kiewit Infrastructure South Company had the lowest responsible and responsive bid of \$1,177,777,000. On May 14, 2013, MWAA formally awarded the Package A Contract to CRC. NTP was issued on July 8, 2013 with a contractual duration for Package A of 1,825 calendar days from NTP. Thus, the Scheduled Substantial Completion Date for Package A is July 7, 2018.

Design: CRC is in the *twenty-fifth* month of their contract and is continuing design activities. DGS reserved accepting the Preliminary Design until CRC revised and re-submitted the Route 772 Station design to address DGS comments. MWAA reported that the 60% submittal for the Route 772 Station was received on March 20, 2015, and MWAA and DGS performed parallel reviews. During the May 6, 2015 update meeting, MWAA reported that the 60% was “accepted as noted” during the last week of April 2015. DGS is the AHJ for the Route 772 Station. MWAA needs the final disposition from the AHJ because the CRC payment milestone is tied to the approval by the AHJs. *At the August 12, 2015 Update Meeting the design of Package A was reported to be 88% complete.* The design of the Project is expected to continue through September 2015.

CRC has submitted all of the 60 percent design submittals *and all but one of the 90 percent design submittals and all but three of the 100 percent design submittals. All but five of the Issued for Permit (IFP) submittals have been completed with four due in August 2015.*

There is a design issue with regard to the access to the tie-breaker stations. CRC has proposed a design which requires access to the rear of the DC circuit breaker enclosure be gained from outside the building. Although this configuration was used in Phase 1 of the Project and is used by other transit properties, WMATA believes this configuration exposes WMATA employees to an increased risk of electrical shock or burns, and exposes the equipment to the intrusion of dirt, debris and precipitation when the rear door of the building is opened. WMATA has formally notified MWAA that the proposed configuration is not acceptable. WMATA has disapproved any submittals that incorporate this tie-breaker configuration and has requested that MWAA provide a hazard analysis. The pros and cons of the two designs need to be documented and be presented to the Chief Executive Officers of WMATA and MWAA for resolution as soon as possible to avoid potential schedule impact. *As of the August 12, 2015 meeting, this issue still has not been resolved and there is potential for further schedule delay if not resolved soon.*

Commonwealth of Virginia's Stormwater Management Regulations: MWAA has also requested that CRC comply with the latest stormwater management regulations. MWAA explained that the changes to revised stormwater regulations require that instead of constructing water retention ponds, CRC will be required to construct a variety of water treatment facilities that focus on water quantity and treating water quality, which could affect stormwater facility right-of-way. CRC plans to integrate the stormwater redesign into design and construction schedules. During the June 5, 2014 meeting, MWAA explained that CRC is required to comply with the Commonwealth of Virginia's SWM Part II-B criteria. MWAA added that although the Virginia Stormwater Management Program (VSMP) Construction Permit allows CRC to be "grand-fathered" into the prior regulations, Virginia Department of Environmental Quality (DEQ) encouraged CRC to comply with the revised criteria to be current with the regulations. In addition, MWAA made a policy decision to implement the revisions to be compliant with the latest regulations.

MWAA explained that preliminary engineering was performed during the transition in the regulations leaving MWAA with two options; change the criteria to SWM Part II-B and be in conformance with the latest regulations, or move forward with the prior regulations and race to complete the design to ensure that the project is "grand-fathered" into the prior regulations. MWAA made the determination to proceed with the new criteria. MWAA explained that the primary difference in construction is that the new regulations require a higher level of treatment for water quality. These treatment facilities, or Best Management Practices (BMP), are designed to eliminate pollutants to the stormwater entering the Chesapeake Bay.

Site-specific maintenance of the BMPs will be the responsibility of the facility owner. Maintenance at the Dulles Airport will be the responsibility of MWAA, along the Greenway will be the responsibility of TRIP II (Dulles Greenway) and the Maintenance Facility will be the responsibility of WMATA. MWAA added that WMATA is aware of

the maintenance requirements once this extension to the existing Metrorail system is turned over to WMATA.

Revisions related to SWM Part II-B are being identified as design development proceeds. CRC has stated that the SWM Part II-B design is a change that would require increased design scope. MWAA reported that a level of effort agreement has been reached with CRC to resolve the additional design costs; however, discussions are still ongoing regarding construction and extended overhead costs. *To date, change orders totaling \$9.157 million have been issued related to stormwater management studies and design changes. Change Order No. 66 has been issued related to Delay and Delay Rated Costs of Early Design Changes granting CRC 396 days of excusable delay which extends the Scheduled Substantial Completion Date (SSCD) to August 7, 2019. CRC has submitted a Request for Change (RFC) in the amount of \$191.9 million associated with the costs related to the 396 day delay. Negotiations on the settlement of this RFC have begun and are not expected to be concluded until the end of 2015. The additional costs incurred by MWAA, PMSS and WMATA associated with the delay have not yet been estimated. Fairfax and Loudoun Counties will also incur additional cost due to the delay.*

Permits: MWAA attained the Wetlands permit from the Army Corps of Engineers during preliminary engineering. CRC considered doing a re-delineation because they found some areas that were wet on Airport property had not been included in the initial delineation. After discussions with the Airport and DEQ, an accommodation was made that the permit will not be re-delineated, but a permit modification submitted to the Army Corps of Engineers and DEQ showing changed areas based on refinements for technical accuracy. The permit modification was submitted to the Army Corps of Engineers and DEQ on April 7, 2014. CRC continues to meet with the various permitting agencies as necessary.

Construction: As of the August 1, 2015, MWAA reported that of the 197 pier structures, 108 (55%) of drilled shafts had been completed, 102 (52%) of the pier columns had been cast, and 79 (43%) of the pier caps had been cast in aerial guideway substructure Sections S3 (Dulles Airport) and S4. *Crews continue to drill and set anchor bolts and bearings on the pier caps for girders working north through the Airport and into the Yard Leads guideway. Structural crews have installed Secant Piles for the east abutment and are currently installing Secant Piles at the west abutment for the Centerville Bridge. Girders, other than the 96" deep girders, have resumed casting at Coastal Precast and are ready for shipment to the site. The investigation into the cause of the cracking in the top flange of the 96" girders continues by the consultants for MWAA and CRC as noted earlier in this report.*

*Excavation continues east of the S-1 Aerial Guideway abutment A in the median of the DIAAH to the west side of Horsepen Run Bridge for future guideway construction. Construction of track retaining walls and foundations continue in the median of the DIAAH east of the S-1 Aerial Guideway and west of Horsepen Run Bridge. Concrete work continues on the S-1 Abutment A structure. Modification work continues along the DIAAH and Dulles Toll Road (DTR) to enable the construction of the Innovation, Herndon and Reston Stations. Concrete barriers are being set and work areas are being made safe along the DIAAH and Dulles Toll Road with approved pull-off areas set in place and truck turnarounds installed to minimize Project related truck travel times.*

*Welding of deck plates has been completed at Horsepen Run Bridge. Storm drain extension work is ongoing on the eastbound Greenway adjacent to the widening areas for stations. Work also continues to develop the widening area near the Yard Leads and between Route 606 and the toll plaza. The realignment of the westbound Greenway has started with lane shifts and shoulder closures for the placement on concrete barriers to establish safe work zones. Jack and bore work at Innovation and Herndon Stations has encountered difficulties due to the type of rock being encountered and different types of equipment are being brought in to break through the rock. The contractor has begun the use of directional boring equipment to install the required systems and utilities under the DTR and the DIAAH at Innovation Station. Jack and bore work continues in areas where conditions are permitting this type of excavation and drilling. Excavation continues at Innovation Station in preparation for constructing foundations. The installation of sanitary sewer and water line continues at Dulles Station. The realignment of Saarinen Circle for future station work has been completed .*

*Waterlines are being relocated along Autopilot Drive to avoid future guideway pier construction. Electric power lines for roadway lighting are also being relocated, as required, to clear areas for future S-1 Aerial Guideway foundations. Overhead signs and their electrical supplies lines are also being relocated in support of future Dulles Station construction. The relocation of Century Link communication lines along the DIAAH is underway.*

*Work for the 34.5 kV Traction Power Feeder continues with the installation of ductbank and manholes along DIAAH near the Innovation and Herndon Stations. Ductbank and manhole installation also continues along the DIAAH up to Abutment A approaching the east side of the Airport. The contractor is also installing 34.5 kV manholes along Autopilot Drive. Coordination with the Rental Car Agencies and other Airport tenants is underway for the 34.5kV ductbank installation along Autopilot Drive with the next few weeks.*

*The tower crane was erected at Innovation Station to support the placement of concrete and steel erection in the station. Concrete placement for the foundations at Innovation Station has begun.*

#### Schedule:

MWAA has accepted-as-noted the draft Final Baseline Schedule, and CRC made some minor changes to the schedule. CRC resubmitted the Final Baseline Schedule on February 14, 2014 and MWAA “Accepted-as-Noted the schedule on February 25, 2014.

CRC submitted a revised final Proposed Rolling Baseline Schedule (PRBS) on May 4, 2015, which was “Accepted as Noted” by MWAA on May 12, 2015. The PRBS reflected progress through February 28, 2015 with an agreed revised Scheduled Substantial Completion Date (SSCD) of August 7, 2019 which incorporates the thirteen month time extension. *CRC’s June 2015 Monthly Schedule Update was submitted on July 9, 2015. The Monthly Schedule Update reflected August 9, 2019 for the Project SSCD , a two calendar day’s slippage. The June 2015 Monthly Schedule Update submittal was “Accepted as Noted.”*

- **Dulles Maintenance Facility (Package B)**

Procurement: Package B includes the final design and construction of the WMATA Maintenance Facility and Storage Yard at the northwest corner of the Dulles Airport property. The yard storage tracks will have an initial storage capacity of 168 railcars, with the ability to expand to 228. The scope of Package B also includes the design and construction of at-grade rail tracks; facilities for railcar service and inspection; facilities for train dispatch, operation, and supervisory personnel facilities; facilities for police and security personnel; facilities for maintenance of way and materials warehouse; a yard control tower; communications, traction power substations, and train control facilities and equipment; roadway construction and improvements.

MWAA stated that there were no major changes resulting from the WMATA review. The contract drawings went through two cycles of reviews by MWAA and WMATA, which included the specifications and the statement of work. MWAA sent a letter to WMATA confirming a budget for Package B of \$280 million, stating what scope will and will not be included in the base contract package. MWAA added that the procurement included options for the other scope items requested by WMATA but not in the base contract package.

Price proposals were received on June 27, 2014. MWAA Procurement performed a responsibility determination and the lowest qualified bidder was selected. Final contractor selection and Notice of Recommended Award was announced on July 2, 2014, to Hensel Phelps Construction Company (HPCC). HPCC signed the contract on July 29, 2014 and MWAA issued NTP on August 18, 2014. The Preconstruction meeting was also held on August 18, 2014.

The lowest qualified bid was \$252,989,000, which is under the Package B budget of \$280 million. The \$252,989,000 bid includes two options for the other scope items requested by WMATA but not in the base contract package: the Warehouse Building expansion and the Track S-5 Hoists. MWAA added that the SWM Part II-B regulations are included in the Package B Contract.

Substantial completion is scheduled for August 17, 2018.

Design: The Package B DB Contractor, HPCC, submitted the Design Management Plan and other required management plans in September 2014; MWAA “Accepted-as-Noted” the Design Management Plan and other required management plans. At the May 6, 2015 update meeting, MWAA reported that the HPCC 60% design submittal had been reviewed and was not accepted. A major issue is HPCC’s desire to use shallow pit lifts for the rail car shop hoists rather than the deep pit hoist configuration specified in the Project Technical Requirements. HPCC has submitted a Design Change Request (DCR) for WMATA’s consideration.

Schedule: HPCC submitted its Final Baseline Schedule on January 28, 2015, and issued subsequent revisions on February 17 and February 24, 2015. MWAA “Accepted as Noted” the Final Baseline Schedule. This schedule is the basis for the Package B Monthly Updates and pay requests.

*MWAA received HPCC's June 2015 Schedule Update on July 6, 2015, which was "Accepted as Noted". The monthly schedule update reflects a forecasted Substantial Completion Date of September 25, 2018, which represents 39 days of delay to the contractual SSCD. The primary critical path is the early site design packages Integrated Permit Package (IPP) #1 100% approval and site permitting. The permitting is followed by the implementation of the Stormwater Pollution Prevention Plan (SWPPP) measures and site clear and grub activities. After the site clearing, the path leads to the Service and Inspection (S&I) building construction.*

### **Advanced Earthwork for Maintenance Facility (Package S)**

The Phase 1 contractor used the site of the proposed Dulles Maintenance Facility to stockpile excavated material. To construct the new facility, it was necessary to move most of the stockpiled material and re-grade the site. MWAA has awarded an Advanced Earthwork contract to move the stockpile to another site on Dulles Airport property.

Procurement: MWAA issued a Notice of Recommended Award to the third lowest bidder, ACMC, on November 1, 2013. NTP was issued on November 18, 2013, with a contractual duration of 385 calendar days from NTP, which resulted in a December 8, 2014 completion date.

Design and Permits: The MWAA Construction Permit was issued on April 23, 2014; however, the approval for the installation of the erosion and sediment controls was issued prior to the issuance of the construction permit. Installation of the erosion and sediment controls began on April 21, 2014.

Construction Soil removal was completed in mid-October 2014. Survey confirmed that ACMC has provided the required finished grade elevations. Final grading and roadway restoration has been completed, and substantial completion was reached on December 8, 2014. Punch list work was completed on May 15, 2015. This contract is in the closeout phase.

#### Schedule:

During the December 2014 meeting, MWAA reported that substantial completion was reached on December 8, 2014 with the exception of punch list work. MWAA reported that the punch list work was completed on May 15, 2015.

### **Parking Facilities (formerly Package C)**

At present, Fairfax County and Loudoun County will design and construct the five required parking facilities. Loudoun County is in the procurement process and Fairfax County is in the design process. Fairfax County has finalized the locations of the garages located at Herndon and Innovation Center Station.

Fairfax County: Fairfax County is currently responsible for two parking facilities: one at the Innovation Center Station and one at the Herndon Station. The final locations for the parking facilities have been determined and all Land Use approvals have been obtained from the Fairfax County Board of Supervisors. On July 30, 2013, Fairfax County approved a Real Estate Exchange Agreement for the site of the Innovation Center Station parking facility. The Agreement provides for the exchange of property and property acquisition necessary to implement a joint development plan. MWAA submitted the

results of their Environmental Re-Evaluation for Locality Parking Garage Refinements for Herndon and Innovation Center to the FTA on June 8, 2015 and the relocation was approved the relocations on August 10, 2015.

Final design started in fall 2014. Project completion is scheduled in April 2018. However, with MWAA's announcement that the Project will be delayed for thirteen months, Fairfax County will revise their schedule based on MWAA's updated Project schedule before proceeding.

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. The schematic design has been completed and a Value Engineering review has been held during the last week in March 2015. The series of recommendations is being evaluated. Design completion is scheduled for April 2016.

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

On January 16, 2014, the Loudoun Board of Supervisors voted in favor of the County taking responsibility for the funding and construction of the Route 606 and 772 North and South parking facilities. In addition, in the same motion the Board directed staff to pursue further evaluation of all four of the Public-Private Partnership (PPP) offers for each of the parking facilities, citing that all are in the range of general acceptance. Loudoun County reported that at the January 15, 2014, Loudoun Board of Supervisors meeting, the Board voted to finance and construct the Loudoun County garages separate from the Dulles Corridor Metrorail Project, subject to receiving TIFIA funds for their share of the Project. Subsequently, in accordance with the PPTA, on February 12, 2014 there was a public hearing on the four proposals that were posted on the Loudoun County website ([www.loudouncounty.gov/procurement](http://www.loudouncounty.gov/procurement)).

During the closed session on March 5, 2014, the Loudoun Board of Supervisors approved the Design-Build-Operate-Maintain and Finance (DBOM+F) method for the procurement of the parking facilities. They discussed and decided on the parameters for the Best and Final Offer (BAFO). The request for a BAFO was transmitted to all four of the bidders on April 11, 2014 and the BAFOs were received from all bidders on May 14, 2014. Loudoun County reviewed the BAFOs and issued a short list for each parking facility for negotiations.

During the August 12, 2015 meeting, Loudoun County provided an update on each of the parking facilities:

**Route 772 North (Ashburn North)** – The Interim Agreement with Comstock was signed on February 18, 2015. Loudoun County reported that they expected the Final Comprehensive Agreement to be reached by September 9, 2015. The completion of Final Design is expected by January 2016 with the completion of construction anticipated by end of 2017. MWAA submitted the results of their Environmental Re-Evaluation for Locality Parking Garage Refinements for the Route 772 North (Ashburn) to the FTA on June 8, 2015, and the relocation was approved by FTA on August 10, 2015.

**Route 772 South (Ashburn South) and Route 606 (Loudoun Gateway)** – The recommended DBOM+F contractor, Nexus Properties, Inc., has proposed that both of the facilities be constructed on the sites identified in preliminary engineering. As of the September 2014 meeting, Loudoun County reported that negotiations are advancing and Loudoun County is in the process of assembling the legal documents for all three parking facilities. In addition, Nexus Properties has requested the design criteria for the parking facilities. During the September 2014 meeting, Loudoun County reported that it anticipates commissioning the parking garages in March 2018 in accordance with the original PPTA schedule. During the February 10, 2015 meeting, Loudoun County reported that there was no change to this schedule. Loudoun County legal staff is preparing the Interim Agreements with Nexus for the Route 772 South and Route 606 Parking Facilities. *At the August 12, 2015 meeting, Loudoun County confirmed that they were negotiating the Final Agreement for both locations with Nexus and expected agreement to be reached by the end of September 2015, and that the negotiations were proceeding well.* However, Loudoun County is awaiting MWAA’s recovery schedule relative to the reported thirteen months delay to the Project before determining their schedule for these two parking facilities.

**e. Other Phase 2 Contracts**

- Structural Tests and Special Inspections
- An RFP was issued December 27, 2013, for a contract to perform structural *tests* and special inspections on rail stations, guideways, bridges and substations, which are part of the Project. Proposals were received on January 30, 2014. The contract was approved by the MWAA Board of Directors on April 16, 2014, and was awarded to Professional Services Industries (PSI) on April 18, 2014. PSI continues to perform testing and inspections of the construction activities, which will include Package A and Package B.
- Building Code Plan Review and Inspection Services

An RFQI was issued on December 23, 2013, for a consulting firm to conduct building code plan review and inspection services for the Project. The firm will also conduct review of stormwater management plans, provide associated erosion and sediment control inspections, plan review and enforcement services, and provide general environmental services as assigned during construction of the Project. Qualifications were submitted on January 23, 2014, and the contract was approved by the Airports Authority Board of Directors on April 16, 2014. The contract was awarded to IBTS Government Solutions on May 29, 2014. Task Order 1 was issued with NTP on June 5, 2014.
- Environmental Professional Services

The contract for environmental professional services needed to support the completion of Environmental Due Diligence Reports (Environmental Screening Assessments, Phase I Environmental Site Assessments, and Phase II Environmental Site Assessments) for real estate acquisition on the Project was awarded to Environmental Alliance, Inc. on March 25, 2014.

**f. Real Estate and Project Development**

MWAA resubmitted Revision 3 to the RAMP, including Procedure P2M-3.01, on August 6, 2014. The PMOC recommended that FTA accept this revision and the FTA letter accepting the RAMP was forwarded to MWAA on August 18, 2014.

MWAA reported that the letter submitted to FTA in 2007 requesting to raise the threshold values to \$100,000 and \$1,000,000 respectively was for the entire 23-mile corridor and not only Phase 1. In addition, FTA’s approval letter October 5, 2007 did not preclude Phase 2 nor did it specify Phase 1. As a result, MWAA determined that the threshold increase applied to the entire corridor, and in response to FTA, MWAA submitted a letter requesting to reauthorize the threshold limits used for Phase 1 for Phase 2 by January 8, 2014. MWAA submitted a supplement to the letter, in accordance with the FTA Circular 5010.1D, to FTA on February 6, 2014. On July 3, 2014, FTA approved the increase for threshold limits for the Dulles Phase 2 Project.

Responsibility for Phase 2 right-of-way will be directly under MWAA and not the DB Contractor as in Phase 1. The exception to this is that CRC is responsible for utility relocation and property acquisitions outside of the parcels that MWAA has identified as part of the preliminary engineering plans. In conjunction with CRC, MWAA has identified the project parcels and broken them into priorities (1, 2A, and 2B) under the contract.

Priority 1 parcels were identified by MWAA during preliminary design as the primary parcels that would be needed by the Package A Contractor. MWAA has developed Property Identification Plans (PIP) for the Priority 1 parcels based on CRC’s current design and CRC is responsible for verifying the PIPs are adequate to support construction. The Project team will be the negotiator and relocation manager for the Priority 1 parcels and MWAA has retained consultants for the appraisal and appraisal review work associated with the acquisition of the Priority 1 parcels.

*The status of the Property Acquisitions is shown in the following table.*

## Property Acquisition Status

Priority	Total Anticipated <sup>1</sup>	PIP <sup>2</sup> Complete	Initial Appraisal Complete <sup>3</sup>	Revised PIP/ Appraisal Pending <sup>4</sup>	Offer Made <sup>5</sup>	Revision in Progress	Settlement Reached/ Condemnation Processed <sup>6</sup>	Acquisition Complete <sup>7</sup>
<b>1</b>	9 <sup>8</sup>	8	8	3	7	0	4	3
<b>2A<sup>9</sup></b>	21	9 <sup>10</sup>	5	0	5	0	6	1
<b>2B<sup>11</sup></b>	26	0	0	0	0	0	0	0
<b>Total<sup>12</sup></b>	56	17	13	3	12	0	10	4

Right of Entry (ROE) Status:

- Full Access for Construction has been provided for Parcels 238, 240, 235, 237 and 264.
- Full Access to Fairfax County-owned property was provided in 2013 for Parcels 213, 223, 232 and 234.
- Early Right-of-Entry for selected utility work that was provided for Parcel 208 in January 2014, which allows access across Parcel 209 on Edmund Halley Drive, has expired before it was used and CRC states they now will not need access through the property as they have shifted the southern end of the jack and bore to be closer to the roadway.

<sup>1</sup> Total based on current understanding, including changes due to SWM II-B criteria revisions.

<sup>2</sup> PIP = Property Identification Plan

<sup>3</sup> Initial appraisals complete for Priority 1 parcels 207, 214, 220, 237, 262, 255, 253 and 254. One other appraisal placed on hold initially due to dedication revision (Parcel 258). Appraisal complete for Priority 2 Parcels 231, 238, 240, 275, 276.

<sup>4</sup> Pending revisions to PIP due to Route 772 station area configuration and revised SWM: Parcel 255. New appraisal required for Parcel 237 due to revised utility relocation approach. Revised PIP for Parcel 253 accepted in March 2015.

<sup>5</sup> Offers made for Parcel 207, 220, 214, 238, 240, 237, 231, 262, 254, 275, 276 and 253. Negotiations ongoing for Parcels 237 and 253. Condemnation package prepared and for Parcel 220 due to impasse.

<sup>6</sup> Parcels 207, 214, 220 and 240 complete. Negotiations completed for Parcels 238, 231, 275, 276, 262 and 254. Parcel 275 COT send to VDOT Central Office for review and approval, but placed on hold based on recent discussions with landowner.

<sup>7</sup> Parcels 207, 214, 220 (condemnation certificate filed) and 240.

<sup>8</sup> Includes one parcel to be dedicated to Loudoun County (Parcel 258) for which a Proffer Condition Amendment by the County was completed in July 2014 that redefines the area to be dedicated. Appraisal will be conducted once revised area needed for Project have been identified.

<sup>9</sup> Acquisitions will be based on Final Design plans provided by Contractor. Includes one new parcel package, Parcel 267, for the relocation of a bus shelter on the north side of Sunset Hills Road at Reston Town Center Station.

<sup>10</sup> Priority 2A PIP status: Parcels 240, 238, 231, 275, 276, 264, 320, 271 and 256 PIPs Accepted by MWAA. In addition, to the two PIP's Accepted, MWAA reviewed three other PIP's in July, Parcels 265, Parcel 251, and 249.

<sup>11</sup> Priority 2B PIP status: Parcels 225, 226, and 227 submitted by CRC in February 2015 for which comments have been returned to CRC in March 2015. MWAA reviewed the PIP for Parcel 261 and returned comments in July 2015. Includes one new parcel package, Parcel 266, for sight distance and temporary construction easements.

<sup>12</sup> 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.

MWAA has received Rights-of-Entry with the users at the Dulles Airport to accelerate the acquisition process. MWAA is working with the Real Estate Manager at the Dulles Airport to review leases and is using the lease provisions for the Rights of Entry. MWAA is also relocating tenants within the Dulles Airport to accommodate CRC's construction activities. In addition, to accommodate CRC's construction activities, MWAA has expedited obtaining access rights to some of the Dulles Airport properties.

Third-Party Appraisal Review Services Contract: An RFP for Phase 2 appraisal review services was issued on June 7, 2013 and an award issued to Appraisal Review Specialists, LLC, on October 10, 2013. The majority of the Priority 1 appraisals has been completed by the appraisal consultant, Parli Appraisal, Inc., and is with the review appraiser. MWAA added that the PMSS team would be the negotiator and relocation manager for the Priority 1 parcels. Because some of the properties are at the airport, MWAA is dealing with leaseholds as opposed to the property owners for the acquisition of airport parcels.

Third-Party Property Acquisition Consultant Contract: MWAA has also retained a property acquisition consultant for the remainder for the parcels (Priority 2 and 3) using VDOT's specifications. The RFP was issued on May 23, 2013, and the contract was awarded on August 26, 2013 to Stantec Consulting Services, Inc.

Archeological Investigation:

At the June 5, 2014 meeting, MWAA reported that the archeological investigation in the area of the Yard Lead west of the guideway line will resume the week of June 9, 2014 and the remaining work should take approximately two weeks. The archeological investigation was reported as being completed during the July 9, 2014 meeting. Nothing of significance was found. MWAA understands that it has concurrence from SHPO not to perform the last step of the investigation, which was to be mechanical exploration, since they have found nothing of significance thus far. SHPO has issued their concurrence that the activity in that western area of the Yard Lead is subject to no further evaluation because it is wetland and due to the realignment of the guideway, no structures or track will be built in that area. A draft report was submitted by the archaeology team in November 2014 and comments were provided back for incorporation into a revised draft report which was submitted to SHPO in December. SHPO commented on security fencing drawings on roadway overpasses in mid-February. At the March 11, 2015 meeting, MWAA noted that they had responded to SHPO the previous week. At the April 8, 2015 meeting, MWAA reported that they had forwarded SHPO's comments to CRC for disposition. During the July 8, 2015 meeting, MWAA reported that the materials had been shipped to SHPO in June 2015.

Commonwealth of Virginia's Stormwater Management Regulations: MWAA reported no additional right-of-way should be needed because of revisions in regulations and, therefore, no new agreements are being contemplated at this time. MWAA added that at most, temporary construction easements might be needed. No new private ponds or shared use private ponds are anticipated at this time.

#### **g. Utility Coordination**

MWAA resubmitted the Permit Management Plan, Revision 1, on April 1, 2014 incorporating all previous FTA and PMOC comments. On August 8, 2014, FTA issued a letter approving the Phase 2 Permit Management Plan, Revision 1.

MWAA advised that if the counties build the parking facilities, the counties themselves would be the code officials and not the Department of General Services. In addition, the counties will be responsible for compliance with local requirements for stormwater design and other design requirements. The contract with CRC states that all utility relocations associated with Package A are the contractor's responsibility.

#### **h. Vehicle Procurement**

On August 15, 2012, MWAA authorized WMATA to amend their contract with Kawasaki to exercise the option for an additional sixty-four 7000 Series railcars for Phase 2. WMATA's letter of August 30, 2012 confirmed the executed amendment to the Kawasaki Contract. The MWAA budget including contingency, in year of expenditure dollars, for the Phase 2 railcars is \$213.383 million. The latest schedule from Kawasaki dated *July 25, 2015* shows final delivery for the last Phase 2 vehicles *remains as no later than July 19, 2017*.

### **3. Project Management Plan and Sub-plans**

MWAA has submitted the PMP and required sub-plans. Below is the status of each plan received by FTA through *July 31, 2015*.

MWAA submitted the Final PMP Version 2.0 on February 6, 2015. PMOC recommended that FTA accept the PMP Version 2.0, with comments, on March 27, 2015. PMOC's comments included the requirement that the PMP be updated early in the fourth quarter of 2015 due to the recent departures of several MWAA staff members and the planned reassignment of some duties. *FTA approved PMP Version 2.0 and Project Management Procedures on July 8, 2015, with the comment that an updated PMP showing recent organizational changes be submitted by September 30, 2015.*

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 1 dated February 28, 2015 to FTA and PMOC on March 16, 2015. PMOC completed its review and recommended acceptance with comments on May 5, 2015. FTA forwarded the PMOC's comments to MWAA on June 15, 2015 with the request that MWAA obtain WMATA's concurrence of the SSMP prior to formal acceptance by FTA. *MWAA's email of August 12, 2015 indicated that WMATA had no comments and would not be providing concurrence.*

The Tri-State Oversight Committee (TOC) stated that they are revising the Safety and Security Oversight Management Plan for Phase 2 to clearly outline the lines of authority between the TOC, MWAA and WMATA.

MWAA submitted Revision 1c of the Phase 2 **Risk and Contingency Management Plan** (RCMP), to the FTA on November 13, 2013 for review and approval and FTA approved that revision on February 4, 2014. MWAA incorporated suggested revisions into RCMP Revision 1d and resubmitted the RCMP to the FTA on June 20, 2014 for review. RCMP, Revision 1d, submitted on June 20, 2014 included the updated procedure P2M 5.07, Revision 1, Management of Project Contingency Procedure, with language confirming MWAA’s commitment to secure funding for any “Betterment” and “Concurrent Non-Project Activity (CNPA)” related changes.

During the review of the RCMP Revision 1d, the PMOC noted that the Top Ten Risks list had been revised, ranking the change to the Stormwater Management Part-II B regulations as the top risk to the Phase 2 project. The PMOC questioned the methodology behind the scoring for Risk Register and what assumptions were made in determining the scoring for the Top Ten Risks. The PMOC stated that it has reviewed the RCMP, Revision 1d and recommended that it be conditionally accepted by FTA. MWAA has submitted revisions to the Risk Register and Top Ten Risks as of December 2014. The first was on February 9, 2015 that PMOC has discussed with MWAA resulting in a resubmission with additional information provided on March 23, 2015. PMOC’s observations on that submission were discussed with MWAA after the April 8, 2015 update meeting. MWAA was to provide additional information. On May 5, 2015, MWAA submitted a revised Risk Register and Top Ten Risks to FTA which the PMOC found were inconsistent with previous submissions. In discussions after the June 10, 2015, MWAA agreed to revisit the Risk Register scoring and meet with the PMOC after the July 8, 2015 Update Meeting. PMOC and FTA met with MWAA after the update meetings to discuss the updated Top Ten Risks and scoring submitted on July 7, 2015. PMOC provided suggestions to the scoring ranges which MWAA agreed to revise and re-score the Risks. *MWAA submitted an updated Risk Register on August 11, 2015 which is under review by the PMOC.*

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.

#### **4. 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 January 10, 2019, 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 Project Master Schedule dated July 29, 2015*, as provided by MWAA.

<b>DULLES CORRIDOR PHASE 2 MILESTONES</b>	
<b>DESCRIPTION</b>	<b>DATE</b>
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 Facility Complete	August 2016
Package A – Complete Design	February 2016
Package A – Complete Elevated Guideway Construction	March 2018
Package A – Complete At-Grade Guideway Construction	November 2018
Package A – Station Build-out	December 2018
Package A – Systems Installation	October 2018
Fairfax County – Construction of Parking Facilities Complete	March 2019
Loudoun County - Construction of Parking Facilities Complete	May 2019
Package A – Contract Substantial Completion	08/9/2019
Begin Operations Readiness Testing	08/10/2019
Package B – Contract Substantial Completion	09/25/2018
Complete Operations Readiness Testing	10/08/2019
Project Final Acceptance	10/09/2019
Begin WMATA Revenue Operations Readiness (ORD) Acceptance Testing	10/09/2019
Complete WMATA Revenue Operations Acceptance Testing	02/05/2020
Revenue Service Date	02/05/2020

**a. Important Activities – 90-Day Look Ahead**

- MWAA to provide the cost impacts of the delay due to SMP Part II-B and design changes at end of 2015.
- MWAA to submit an updated PMP by September 30, 2015.
- FTA approval of the RCMP.
- Start of final design by Fairfax County for the Innovation Center Station and Herndon Station parking facilities.
- Loudoun County to complete negotiations and issue contract award and NTP for the design, construction, financing, operation and maintenance of the three Phase 2 parking facilities.

**5. 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 *June 2015* is shown below. As of *June 2015*, project expenditures total \$489,473,606. Based on the budget and expenditures, the total project completion is 21%. This percentage does not include finance charges and contingency.

**PROJECT COST SUMMARY BY SCC CODE –June 2015 Phase 2**

FTA SCC CODE	DESCRIPTION	ORIGINAL BUDGET <sup>1</sup>	BASELINE BUDGET <sup>2</sup>	EXPENDITURE IN JUNE	EXPENDITURE TO DATE	ESTIMATE AT COMPLETION	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 344,946,326	\$ 167,928,670	\$ 1,585,835	\$ 11,536,566	\$ 169,437,000	\$ 2,422,000
20	Stations	\$ 228,424,057	\$ 227,697,000	\$ 980,115	\$ 987,810	\$ 227,253,683	\$ (34,317)
30	Yards, Shops, Admin. Bldgs	\$ 229,857,097	\$ 213,730,843	\$ -	\$ 5,386,876	\$ 214,030,843	\$ 300,000
40	Site Work & Utility Relocation	\$ 394,075,868	\$ 545,160,692	\$ 4,432,815	\$ 138,340,025	\$ 579,330,817	\$ 27,123,455
50	Systems	\$ 193,794,178	\$ 215,516,247	\$ 98,325	\$ 15,327,796	\$ 213,984,247	\$ 4,192,000
60	Right of Way Acquisition	\$ 58,523,267	\$ 58,600,000	\$ 511,855	\$ 4,652,302	\$ 58,600,000	\$ -
70	Vehicles	\$ 212,765,000	\$ 213,613,334	\$ -	\$ 39,832,723	\$ 213,613,334	\$ -
80	Professional Services	\$ 564,398,592	\$ 574,696,366	\$ 8,364,709	\$ 273,409,507	\$ 597,296,459	\$ 22,600,093
90	Contingency <sup>3</sup>	\$ 551,451,179	\$ 561,292,412	\$ -	\$ -	\$ 504,689,181	\$ (56,603,231)
<b>TOTAL PROJECT COST</b>		<b>\$ 2,778,235,564</b>	<b>\$ 2,778,235,564</b>	<b>\$ 15,973,653</b>	<b>\$ 489,473,606</b>	<b>\$ 2,778,235,564</b>	<b>\$ -</b>

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

<sup>2</sup> Baseline Budget reflects cost loading of package A baseline schedule approved in February 2014 and redistribution of spares parts budget Baseline Budget for Package 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

<sup>3</sup> All of the contingency resides in SCC 90

<sup>4</sup> Package A expenditure to date include \$5 million of retainage released in December 2014

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 *June 2015*, 145 Contingency Drawdown Requests (CDR) totaling \$56,603,231 have been issued.

## a. Monthly Cost Report – June 2015

### Dulles Corridor Metrorail Project - Phase 2 Monthly Cost Report, June 2015

DESCRIPTION	ORIGINAL BUDGET	BASELINE BUDGET <sup>3</sup>	EXPENDITURE TO DATE <sup>4</sup>	ESTIMATE AT COMPLETION	PERCENT OF EAC EXPENDED TO DATE
<b>Design-Build</b>					
Design Build Main Line - Package A	\$ 1,177,777,000	\$ 1,177,777,000	\$ 257,277,120	\$ 1,232,049,959	
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	\$ 25,259,098	\$ 259,340,297	
Commodity Escalation - Package B	\$ 4,000,000	\$ 4,000,000	\$ -	\$ 4,000,000	
Parking Garages - Package C	\$ -	\$ -	\$ -	\$ -	
<b>Design-Build Contracts Total</b>	<b>\$ 1,467,057,530</b>	<b>\$ 1,456,716,297</b>	<b>\$ 282,536,218</b>	<b>\$ 1,511,390,256</b>	<b>19%</b>
<b>Right of Way</b>					
Parcels & Project Management	\$ 58,600,000	\$ 58,600,000	\$ 4,652,302	\$ 58,600,000	
<b>Right Of Way Total</b>	<b>\$ 58,600,000</b>	<b>\$ 58,600,000</b>	<b>\$ 4,652,302</b>	<b>\$ 58,600,000</b>	<b>8%</b>
<b>WMATA Agreement</b>					
Vehicles	\$ 205,868,200	\$ 205,868,200	\$ 39,832,723	\$ 205,868,200	
WMATA Non Revenue Vehicles	\$ 9,250,751	\$ 9,250,751	\$ -	\$ 9,250,751	
WMATA Project Management and Other Costs	\$ 90,205,767	\$ 90,205,767	\$ 5,252,505	\$ 90,205,767	
<b>WMATA Agreement Total</b>	<b>\$ 305,324,718</b>	<b>\$ 305,324,718</b>	<b>\$ 45,085,228</b>	<b>\$ 305,324,718</b>	<b>15%</b>
<b>Preliminary Engineering</b>					
<b>Preliminary Engineering Total</b>	<b>\$ 75,000,000</b>	<b>\$ 75,000,000</b>	<b>\$ 71,107,066</b>	<b>\$ 75,000,000</b>	<b>95%</b>
<b>Airports Authority Services</b>					
Airports Authority Project Management	\$ 64,620,000	\$ 64,620,000	\$ 15,230,824	\$ 64,620,000	
Project Management Support	\$ 140,000,000	\$ 140,000,000	\$ 49,426,667	\$ 140,560,000	
Other Costs <sup>1</sup>	\$ 116,182,137	\$ 116,682,137	\$ 21,435,301	\$ 118,051,409	
<b>Airports Authority Services Total</b>	<b>\$ 320,802,137</b>	<b>\$ 321,302,137</b>	<b>\$ 86,092,792</b>	<b>\$ 323,231,409</b>	<b>27%</b>
<b>Contingency</b>					
<b>Contingency Total</b>	<b>\$ 551,451,179</b>	<b>\$ 561,292,412</b>		<b>\$ 504,689,181</b>	
<b>TOTAL PROJECT COSTS</b>	<b>\$2,778,235,564</b>	<b>\$2,778,235,564</b>	<b>\$ 489,473,606</b>	<b>\$2,778,235,564</b>	<b>22%<sup>2</sup></b>

1 Includes Airports Authority Allocated Costs, Rent, Relocation, OCIP, VDOT, DRC, Testing Consultant, DGS, TRIP II, DEQ, Airports Authority Permits/Inspection, Testing Power and Historic/Archaeological Mitigation

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

## b. Funding Sources

Primary funding for Phase 2 (excluding parking facilities) comes from MWAA (8.50%), Fairfax County (18.98%), Loudoun County (9.95%), Commonwealth of Virginia (11.64%), and the Dulles Toll Road (50.93%). MWAA, Fairfax County, and Loudoun County anticipate receiving 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%
Fairfax County	\$ 527,352	18.98%
Loudoun County	\$ 276,478	9.95%
MWAA (Aviation Funds)	\$ 236,158	8.50%
MWAA (Dulles Toll Road)	\$ 1,414,948	50.93%
<b>Total Sources of Funding</b>	<b>\$ 2,778,236</b>	<b>100.00%</b>

### c. 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 \$1.87 billion in TIFIA Loans to support the construction of Phase 2. To date, this represents the largest TIFIA assistance for a single project in the program's history.

Because of the Office of the Inspector General (OIG) audit of Phase 1, MWAA has taken steps to better manage the accounting for Phase 2. FTA performed an Agreed Upon Procedures (AUP) review with a Financial Management Oversight contractor in January 2015 following up on the findings from the OIG audit. A draft and final report are forthcoming.

## 6. Project Risks

With the commitment from both Fairfax and Loudoun Counties to fund and procure the parking facilities independently, MWAA revised the RCMP and the PMOC provided comments to the proposed contingency drawdown on March 31, 2014. MWAA submitted the latest revision of the Phase 2 Risk and Contingency Management Plan (RCMP), Revision 1d, to the FTA on June 20, 2014, including MWAA's proposed Top Ten Risks to FTA for review and approval. The submission included updated procedure P2M 5.07, Revision 1, Management of Project Contingency Procedure, with language confirming MWAA's commitment to secure funding for any "Betterment" and "Concurrent Non-Project Activity (CNPA)" related changes. MWAA has identified four primary mitigation strategies; however, MWAA and the PMOC agree that the primary and secondary mitigation measures should be developed in more detail following the award of all the DB contracts. RCMP, Revision 1d, included the updated Top Ten Risks List, lowering the severity and hence the removal of risks associated with parking garages as the garages will be funded and managed by the counties and addition of three new risks. Also, included in the revised RCMP were updated contingency drawdown milestones.

- **Budget Risks:** MWAA has allocated \$551 million in contingency for the overall project. Contingency is further broken down by Package as follows: \$289 million for Package A and \$109 million for Package B. With the assumption of the responsibility for the Parking Facilities to the counties, the \$72 million for Parking Facilities (formerly Package C) included in the RCMP revision 1c was deleted in Revision 1d. A contingency management plan has been established for the release of contingency based on contract milestones. The Phase 2 budget of \$3,126,450,757 includes a base cost contingency of \$422,105,181 and a secondary cost contingency of \$129,345,998.
- **Schedule Risks:** The result from MWAA's schedule risk analysis shows that there is less than five percent chance that the Schedule Substantial Completion Date (SSCD) will 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, 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. In the PMOC's opinion, the Project will incur additional delay considering it is still in the early construction phase.*

- **Top Ten Risks:** In its June 2014 RCMP, Revision 1d, MWAA provided a summary of the Top Ten Risks for review and approval. MWAA has moved the implementation of the Stormwater Management Regulations to the number one spot on the Top Ten Risks list. The PMOC questioned the methodology behind the scoring for Risk Register and what assumptions were made in determining the scoring for the Top Ten Risks. MWAA suggested that FTA perform Risk Assessment Workshop for the Phase 2 Project as was done for Phase 1. FTA will consider the suggestion and advise MWAA. MWAA held an internal Risk Workshop on December 12, 2014 which resulted in a change in nine of the Top Ten Risks. FTA and PMOC are reviewing the revised Risk Register and Top Ten Risks dated December 2014, which were submitted on May 5, 2015. The PMOC is concerned that the Top Ten Risks are constantly changing which indicates a lack of consistency in scoring. *MWAA revised the Risk Register and submitted it to the PMOC on August 11, 2015 for discussion and review by PMOC.* Below is MWAA's Top Ten Risks list from RCMP, Revision 1d, submitted to FTA on June 20, 2014.

## Summary Status of the Top Ten Project Risks, June 2014 RCMP

RCMP Revision 1D – June 2014			
Risk ID	Event Description	(Proposed Primary) Risk Mitigation	Risk Rating
Proposed NEW Item 40.D.1 and Top Ten Risk	Storm Water 2B	Define the detail scope requirements and mitigate any potential cost and schedule overruns ASAP	45
80.R1	Project Team and various Agencies add new design requirements not currently included in the PE documents.	Project Team earliest possible exploration and identification of politically based/influenced issues from any and all sources and the timely implementation of a solution that minimizes cost and schedule impact to the Project.	32
Proposed NEW Item 80.D.2 and	CRC's ability to secure approval from AHJ for Preliminary Design (PD)	CRC is to secure PD approval ASAP.	32
40.C.98	Utility Companies involved in the utility relocation delay the DB.	DB to establish agreements with utility companies to start relocations work in advance of construction and complete by earliest need date in DB schedule for timely Project Completion.	27
80.D.39	Fairfax and Loudoun Counties, VDOT, Reston and Town of Herndon require local roadway improvements and traffic signal integration not currently planned or represented in the PE design.	DB to undertake coordination with the Project Team, Loudoun and Fairfax Counties, Reston and Town of Herndon, VDOT and the owners/developers of congruous and adjacent real property.	24
80.D.43	Initial PE design addressing issues of real property acquisition is incomplete, vague or ambiguous.	Project Team to perform advance supplemental analysis of PE design and real estate requirements; Project Team include pessimistic availability dates in DB Contract Documents.	24
40.R.96	VDOT, Loudoun County, Fairfax County, Reston and/or Town of Herndon do not provide new roadways or alteration connecting existing roadways to Project station and parking facility access points.	The Project Team is to coordinate and clarify the responsibilities and obligations of Loudoun and Fairfax Counties, the Town of Herndon, Reston, and VDOT, in the IGA and engage the above named counties and local authorities to solidify buy-in from owners and developers of contiguous and adjacent properties for completing access roadways availability to meet the DB schedule for Project Completion.	21
Proposed new to Top Ten Risks List Item 80.C.196	WMATA does not complete testing and start-up and final acceptance in a timely manner.	DB to monitor critical path activity progress during design and construction, coordinate with the Project Team WMATA's participation, and resolve potential delays to testing and start-up and WMATA's final acceptance of the Project as they occur. To maximize the amount of testing/witnessing that WMATA does alongside Airports Authority and the DB contractor – this approach is being tried in Phase 1.	21
80.C.198	DB does not issue complete and coordinated documents for use in design, construction and the permitting process.	The Project Team is to coordinate the clear articulation in the DB RFP documents the expectations for DB early establishment of submissions procedures and compliance therewith during design and construction, to include establishment of interim milestones during the design phase that are enforceable. Furthermore, the Project Team has to ensure that the DB Contract Documents clearly articulate the DB responsibilities and obligations to provide full and complete submissions to include the work scope of all disciplines required to complete construction and that submittals are staggered to prevent overloading of the review systems.	18
60.R.22	Project Team or DB does not make timely acquisition of right-of-way permanent and temporary easements.	The Project Team shall coordinate the early acquisition of right-of-way and easements so as to not impact the DB design and construction process and progress.	18

## 7. 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	FTA to approve MWAA management plans	MWAA submitted the PMP, QPP, SSMP, RCMP, Permit Management Plan and RAMP.	Y	Y	Y	MWAA submitted the Final PMP Version 2.0 on February 9, 2015 that was approved with comments by the FTA on July 8, 2015.	C
1	2B	FTA to confirm whether further NEPA review will be required for changes to the parking facility locations.	Loudoun and Fairfax Counties are procuring the parking facilities with local funds only.	Y	Y	Y	NEPA review/re-evaluation may be required for changes to the parking facility locations. Loudoun and Fairfax counties need to submit location plans for the parking facilities if they have changed from the prior NEPA review. <i>FTA approved the relocations on August 10, 2015.</i>	C
2	2A	MWAA to report on the updated Revenue Service Date during the monthly progress meetings.	The Package A schedule shows a significant delay that will affect the overall Phase 2 Project schedule including the Revenue Service Date.	Y	Y	N	On April 27, 2015, MWAA announced that the stormwater management and other early design changes have resulted in a thirteen month delay to the Project. A Draft overall Project Schedule was distributed for review by MWAA on July 7, 2015. <i>An updated draft was distributed on July 30, 2015.</i>	R
2	2A	MWAA suggested that FTA perform Risk Assessment Workshop for the Phase 2 Project as was done for Phase 1.	The PMOC questioned the methodology behind the scoring for Risk Register and what assumptions were made in determining the scoring for the Top Ten Risks.	N	N	N	MWAA submitted documentation of the July 2012 Internal Risk Workshop on December 19, 2014 which is under review. MWAA submitted results of their December 12, 2014 risk workshop on February 9, 2015. <i>FTA, PMOC and MWAA met on August 12, 2015 to discuss the latest update submitted on August 11, 2015. PMOC is reviewing this latest submission.</i>	R

**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
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
EA	Environmental Assessment
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
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
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
PPTA	Commonwealth of Virginia Public-Private Transportation Act of 1995
PRBS	Proposed Revised Baseline Schedule
QA	Quality Assurance
QC	Quality Control
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
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 AND MAP

**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.

**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.

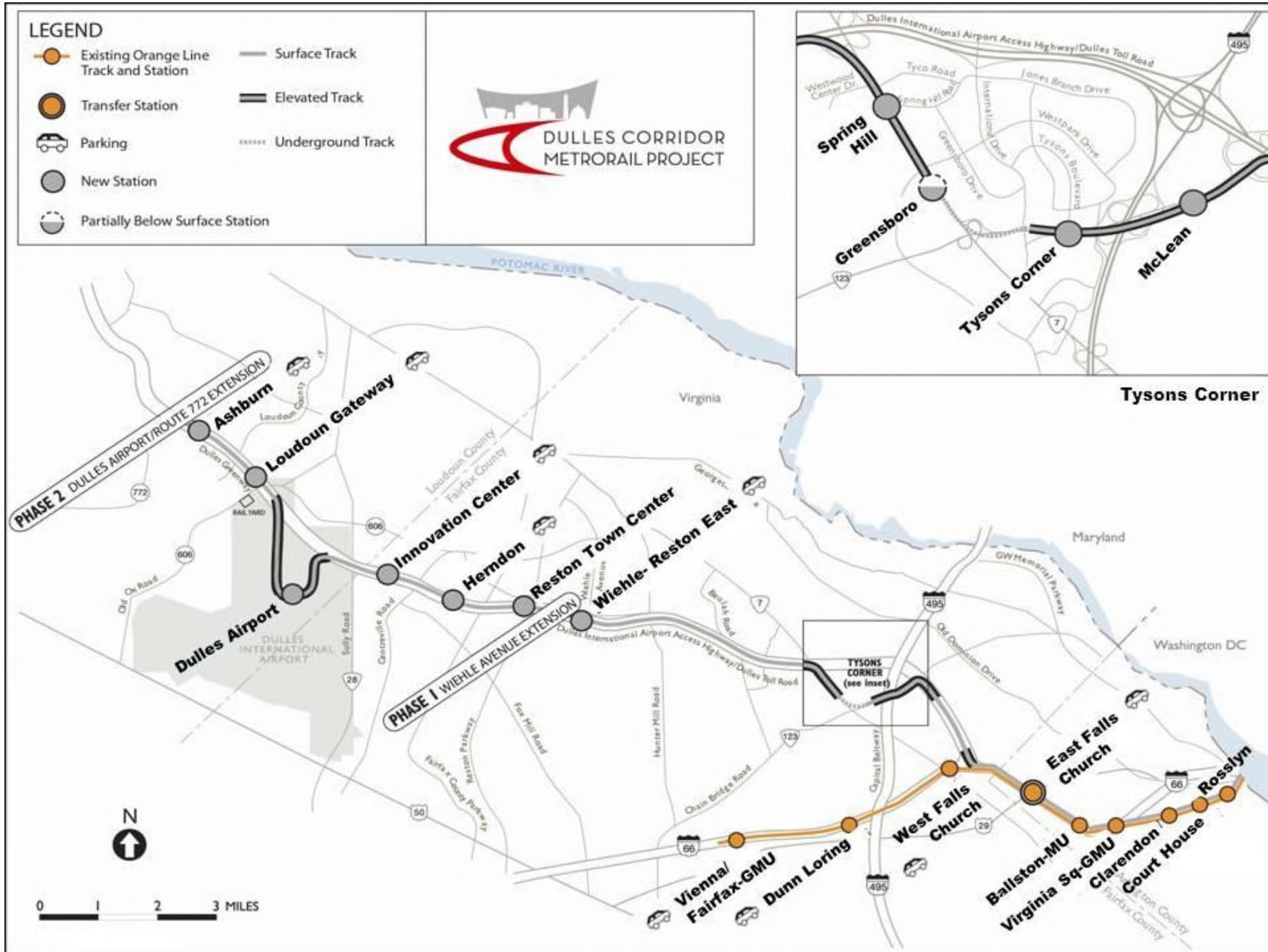
### Current Delivery Milestone Schedule

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
08/20/2014	MWAA TIFIA Loan Executed
5/8/15	<i>Package S Completed</i>
01/10/2019	Phase 2 Revenue Service Date
22%	Percent Work in Place Complete at the date of this report
33%*	Percent Project Schedule Complete at the date of this report
	*Based on new 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
\$489,473,606	Amount of expenditures at the date of this report from a total project budget of \$2,778,235,564
22%	Percent Complete expenditures at the date of this report. (This percentage does not include finance charges and contingency)
\$504,689,181	Total project contingency remaining (allocated and unallocated contingency)

## **APPENDIX C – PROJECT MAP**



**APPENDIX D – MWAA SAFETY AND SECURITY CHECKLIST**

<b>Project Overview</b>	<b>Dulles Corridor Metrorail Project – Phase 2</b>		
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		
<b>Project Plans</b>	<b>Version</b>	<b>Review By FTA</b>	<b>Status</b>
Safety and Security Management Plan	July 2013	Approved on November 15, 2013	MWAA submitted SSMP Rev. 0 dated July 2013 for review and approval in August 2013 in response to comments provided in May 2013. FTA approved the SSMP on November 15, 2013. MWAA submitted SSMP Rev.1 dated February 28, 2015 and PMOC recommended acceptance with comments on May 5, 2015. FTA approved the SSMP with comments on June 15, 2015.
Safety and Security Certification Plan			MWAA has adopted their contractors' SSCPs as the guiding certification documents. MWAA "Accepted as Noted" CRC's SSCP on October 14, 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.

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.
<b>Safety and Security Authority</b>	<b>Y/N</b>	<b>Notes/Status</b>	
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 November 24, 2014.	

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.

<b>SSMP Monitoring</b>	<b>Y/N</b>	<b>Notes/Status</b>
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	MWAA's SSMP, Revision 0, dated July 11, 2013 was approved by FTA on November 15, 2013. MWAA submitted SSMP Rev.1 dated February 28, 2015 and PMOC recommended acceptance with comments on May 5, 2015. FTA accepted the SSMP with comments on June 15, 2015. <i>MWAA responded to the comments by email on August 12, 2015.</i>
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. HPCC's PHA is expected in <i>September</i> 2015. WMATA is responsible for TVA.
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?	Y	
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	
Has the grantee verified construction specification conformance?	Y	The project is in the early DB stage.
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?	N	
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"> <li>• Activation Plan and Procedures</li> <li>• Integrated Test Plan and Procedures</li> <li>• Operations and Maintenance Plan</li> <li>• Emergency Operations Plan</li> </ul>	N	

Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	

<b>Construction Safety</b>	<b>Y/N</b>	<b>Notes/Status</b>
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 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 has not yet started.
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	MWAA has developed an Audit schedule. MWAA has conducted two audits of Construction Safety and Security and two audits of System Safety and Security.

<b>Federal Railroad Administration</b>	<b>Y/N</b>	<b>Notes/Status</b>
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	



