

COMPREHENSIVE MONTHLY REPORT

JANUARY 2010

Dulles Corridor Metrorail Project
Extension to Wiehle Avenue
Metropolitan Washington Airports Authority
Washington, DC

March 2, 2010

PMOC Contract Number: DTFT60-09-D-00016

Task Order Number: 002, **Project Number:** DC-27-5142, **Work Order NO.** 01

OPs Referenced: 01, 25

Hill International, Inc.

One Penn Square West

30 South 15th Street

Philadelphia, PA 19102

PMOC Lead: [REDACTED]

Length of Time PMOC Assigned to Project: 9.5 years

Length of Time PMOC Lead Assigned to Project: 2 years

Executive Summary

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *February 4, 2010* to conduct a monthly progress meeting for work performed in *January 2010* and attended various project meetings on the afternoon of *February 4, 2010*. As of *February 15*, Hill is providing a full-time, on-site PMOC presence at the Dulles Corridor project office. The anticipated schedule of PMOC monthly progress meetings is that they will occur during the last 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) and the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. The Project (Initial Operating Segment) undertakes 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 to be constructed at Wiehle Avenue with a total project cost of \$3.142 billion. Included in the Project are five new stations (Tysons East, Tysons Central 123, Tysons Central 7, Tysons West and Wiehle Avenue), improvements to the existing yard at WFC, and tail tracks beyond the Wiehle Avenue station. Sixty-four rail cars are required to provide service for the Project. Based on the Full Funding Grant Agreement (FFGA), the Revenue Operations Date (ROD) is December 1, 2014. Based on the short-listed vehicle manufacturers' proposed schedules, the 64th car will be delivered by September 20, 2013. The Federal New Starts share is \$900 million for the Initial Operating Segment (extension to Wiehle Avenue). Through Federal fiscal year (FY) 2009, Congress has appropriated \$279 million in Section 5309 New Starts funds and \$77.3 million in American Reinvestment and Recovery Act (ARRA) Capital Investment funds.

The Project Map is located in Appendix B.

2. Project Status Summary

The PMOC met with MWAA on *February 4, 2010* to conduct a monthly progress update meeting for work accomplished in *January 2010*.

Real estate acquisition continues to keep ahead of construction requirements, often resorting to rights-of-entry (ROE) to gain access to required parcels.

Design progress, particularly with regard to stations' design, continues to lag. Designs for stations were originally anticipated to be completed by the end of the third quarter of 2009. *Overall design completion of the five stations is now anticipated to be completed on May 27, 2010 with the completion of the Tysons Central 123 Station as shown in the summary schedule.* Overall design is approximately 82% complete as of the end of *January 2010*. During the month of January, the significant design progress was an increase of *twenty-five* percent for the *Tysons*

West Station which is now at 85% complete and the *Guideway Structures* element which are now at 85% complete, an increase of *ten* percent over the previous month.

Construction progress is broken into two components: utility relocation which is 82% complete and design-build (DB) construction which is approximately 8 to 9% complete. This compares with the previous month when utility relocation was 71% complete and DB construction was at 7.5% complete. Utility companies continue to relocate their facilities into the duct banks and facilities installed by MWAA's utility contractor. (Both utility relocation and DB construction are the responsibility of MWAA's contractor, Dulles Transit Partners, DTP) The scheduled completion of Verizon's cable splicing along Route 7 is still showing the potential to be two weeks beyond the due date for roadway shifts. Efforts are continuing to be made by Verizon to meet the March 1, 2010 required completion date. *DTP's Utility subcontractor continues work on the 34.5kV bypass facilities (TERF Bypass). Traction power ductbanks have been completed at the SAIC property. Along Route 7, the utility subcontractor continues to install ductbanks in the Best Western area between Marshall's and Gosnell/Westpark. The subcontractor has completed 34.5kV ductbank between Best Buy and Stohlman's west of Gosnell Road. Installation of 34.5kV ductbanks and manholes in front of the Infinity Dealership, the Ernst & Young wall, and Embassy Suites continues between Gosnell Road and Spring Hill Road. Between Spring Hill Road and Tyco/Westwood the utility subcontractor continues to install the bypass ductbank on the south side at the Honda Dealership. Installation of 34.5 kV ductbank continues along the DIAAH/Dulles Toll Road from Route 7 to the Toll Road. The recent spate of bad weather is having a negative impact on all work.*

Schedule continues to lag with the most current update (data date of *December 25, 2009*) showing a -21 calendar days variance from the approved construction baseline schedule which results in a ROD of *December 25, 2013*. *DTP's primary critical path originates with the installation of caissons for the Tysons East Guideway, specifically starting with the sub-structure foundations being performed by the caisson subcontractor, Brayman, at piers #7-OB and #8-OB, and then moving the operations to Tysons East Station. The major portion of the critical path is the construction of Tysons East Station, from aerial guideway substructure through fit out of the Traction Power Supply Stations and Automatic Train Control equipment rooms and system testing. MWAA does not agree that the critical paths presented are representative of the actual critical path of the project.*

Budget status as of *December 25, 2009* indicates that \$569,806,575 (18%) has been expended of the \$3,142,471,634 budget total. \$68,483,292 of the available contingency for the first two contingency milestones has been utilized with a remaining balance of \$30,516,708 available through the completion of stations design, which is now anticipated to be completed on *May 27, 2010* for the Tysons Central 123 Station. *MWAA's estimate of the earned value for the Project through December 2009 is 25.5 %.*

3. PMOC's Assessment of Project Status

The PMOC continues to observe delays in the design development particularly with regard to station design. To date, this has not had an impact on the critical path. The major problem has been DTP's lack of familiarity with the requirements of the various permitting agencies and the

need for multiple submittals. DTP's quality reviews of their submittals have been poor. MWAA has met with DGS, VDOT and WMATA relative to the quality and completeness issues associated with DTP's submittals. The feedback from the reviewing agencies has been forwarded to DTP. In addition, MWAA has had internal meetings to discuss what the Project staff can do to review submittals before forwarding them to the reviewing agencies. The PMOC views this as a positive step, although somewhat overdue.

Utility relocation is nearing completion, and the utility companies' relocation of their facilities into the newly constructed ductbanks and manholes, while a challenge, is generally proceeding on schedule. However, the Verizon cable and splicing work along Route 7 is still about two weeks behind schedule, and recent snowstorms have severely impacted the potential for further schedule recovery.

DB construction is accelerating with DTP continuing to add personnel. In January 2010 DTP increased their equivalent staffing by 26 resulting in a total staff of 955. PMSS has added two positions, one a construction inspector and the other a Real Estate Conveyance Specialist. The pre-casting facility has produced 172 pre-cast concrete girder segments (out of a total of 2600) and the quality of concrete, while improved, is still a cause for concern and is being closely monitored by the Project team. The New Austrian Tunneling Method (NATM) tunneling is proceeding with the contractor having excavated 342' of the outbound tunnel and 126' of the inbound tunnel. The outbound tunnel has been completed beneath International Drive.

DTP submitted their proposed plan for inspecting and testing the existing foundations to MWAA on January 22, 2010. This plan is under review by MWAA and their consultant, Haley and Aldrich. The PMOC pointed out that the plan does not include a schedule for the inspection and testing of the existing piers as required by FTA Administrator Rogoff's letter of November 3, 2009 to MWAA's President and Chief Executive Officer, Bennett. At the PMOC's meeting with MWAA, the Authority indicated that the schedule will be developed when the details of the inspection and testing plan are agreed upon. At the WMATA/DTP/MWAA Construction Coordination Meeting held on February 4th, it was observed that DTP was in the process of preparing the Site Specific Work Plan (SSWP) for the inspection and testing of Pier 4/IB which is located between existing operational WMATA tracks.

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1. Grantee's Capabilities & Approach

a. Technical Capacity and Capability

The PMOC prepared a Spot Report of Grantee Technical Capacity and Capability dated January 10, 2008 as part of the PMOC's effort to evaluate the Grantee's readiness to enter Final Design. The conclusion was that the MWAA project staff assigned to the Project was qualified. However, the MWAA direct staff was very thin with many project responsibilities assigned to MWAA's consultant team, Project Management Support Services (PMSS) team. The PMOC recommended that the Grantee add several staff positions and that reporting protocols be enhanced to ensure important project status information is shared in a timely manner with the Federal Transit Administration (FTA) and the PMOC. MWAA has adopted the recommendations and augmented their staff.

In September 2009, MWAA reorganized by implementing an integrated project management organization consisting of MWAA and PMSS staff. However, the personnel involved remained the same as was evaluated in the January 2008 Technical Capacity and Capability Report. It is the PMOC's opinion that the staffing levels and technical capabilities are still adequate.

- **Project Staffing**

The recruitment effort continues to replace the Manager of Project Administration *which is the only remaining vacancy in the MWAA Project organization.*

Upon completion of the project, WMATA will become the operator of this extension to their system. WMATA personnel have been active participants in the project.

b. Project Controls

MWAA has procedures in place with regard to monitoring and controlling project scope, quality, schedule, cost, risk and safety. *It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures.* The Quality Assurance (QA) group maintains an active schedule of audits and surveillances.

c. Compliance

It is the PMOC's observation that MWAA is following the required statutes, regulations and agreements.

- **Project Management Plan and Sub-plans**

MWAA's Project Management Plan (PMP), Version 6.0 dated September 26, 2008 has been accepted by the FTA. The PMOC did a compliance review of MWAA's compliance with the PMP and issued a Spot Report on December 8, 2009. MWAA is in the process of updating the PMP based on the PMOC's observations and the recent MWAA reorganization to an integrated MWAA and PMSS organization. MWAA anticipates completing the PMP update in *late* February 2010. The PMOC's *various* compliance reviews performed during 2009 have found MWAA to be in compliance with their various project plans and sub-plans.

- MWAA's Quality Program Plan (QPP), Revision 6, dated June 25, 2008 was accepted by the FTA on September 19, 2008. *MWAA submitted a revised QPP, Revision 7 to FTA on January 7, 2010.*
- MWAA's Real Estate Acquisition Management Plan (RAMP), Revision 2, dated September 15, 2009, has been reviewed by the PMOC with a recommendation that the FTA concur, with comments, with the revised RAMP. *On January 21, 2010, the FTA provided comments to MWAA, and MWAA staff is in the process of addressing the comments.*
- MWAA's Risk Management Plan (RMP) dated October 2008 has been reviewed and accepted by the FTA.
- Since WMATA, rather than MWAA, will be the operator of the completed project the WMATA Rail Fleet Management Plan (RFMP) is the applicable document. The FTA accepted the WMATA RFMP on September 25, 2007. However, WMATA is in the process of updating the RFMP to reflect the 7000 Series Cars' quad concept and expects to complete the revision in *late* February 2010.
- Since WMATA, rather than MWAA, will be the operator of the completed project the WMATA Bus Fleet Management Plan (BFMP) is the applicable document. The FTA accepted the WMATA BFMP on September 25, 2007. However, WMATA *updated* the BFMP to reflect the updated bus fleet needs and re-assessment of storage and maintenance facilities *and submitted a draft BFMP to FTA on February 2, 2010. The WMATA BFMP is under review by the PMOC.*
- MWAA's Safety and Security Management Plan, Revision No. 6 dated January 2009 was accepted by the FTA on January 27, 2009.

2. Project Scope

a. Bidding & Construction Status

- Utility relocation is *82% complete* and DB construction is approximately *8 to 9% complete*. Utility companies continue to relocate their facilities into the duct banks and facilities installed by MWAA's utility contractor. Utility companies are meeting the requirements of the Project. *However, it now appears that Verizon will not complete their splicing work along Route 7. MWAA has developed a strategy to mitigate this delay by rescheduling work. DTP's Utility subcontractor continues work on the 34.5kV bypass facilities (TERF Bypass). Traction power ductbanks have been completed at the SAIC property. Along Route 7, the utility subcontractor continues to install ductbanks in the Best Western area between Marshall's and Gosnell/Westpark. The subcontractor has completed 34.5kV ductbank between Best Buy and Stohlman's west of Gosnell Road. Installation of 34.5kV ductbanks and manholes in front of the Infinity Dealership, the Ernst & Young wall, and Embassy Suites continues between Gosnell Road and Spring Hill Road. Between Spring Hill Road and Tyco/Westwood the utility subcontractor continues to install the bypass*

ductbank on the south side at the Honda Dealership. Installation of 34.5 kV ductbank continues along the DIAAH/Dulles Toll Road from Route 7 to the Toll Road.

- Work continues on the completion of designs, with stations' designs lagging. The problems with regard to stations design are due to a combination of poor quality control of the documents and lack of sufficient resources. However, this has not yet impacted the project's critical path. *MWAA has met with the various reviewing agencies and forwarded the results of the meetings to DTP. MWAA has stressed to DTP the need for better quality assurance reviews of their submissions and is reviewing DTP's submissions before submitting them to the reviewing agencies.*
- Through *December 2009*, \$215,905,329, or 49.37%, of the \$437,278,511 Allowance Items Budget *had been awarded*. This was an awarded cost of 239,143,222 which results in a positive variance of \$23,237,893. This variance is primarily due to the two additional traction power substations requested by WMATA.

The following are the major accomplishments of the DB contractor:

- **Operations Areas OP-1, OP-2 and OP-3 (I-66/DCR/Laydown Area 1):** The subcontractor completed *five caissons* during *January*, bringing the total number completed to *twenty-four caissons*. *Two guideway columns* were poured to bring the total completed to *nineteen*. *Two pier caps* were poured bringing the total number of pier caps completed to *seventeen*. H-pile installation continues for the *retaining wall at the WFC yard lead tunnel*. The installation of maintenance of traffic at I-66 eastbound *has been completed and clearing and grubbing work has been completed* in preparation for pier foundations work at the K-Line. *Pile driving continues for the east abutment of the Pimmit Run Bridge, and the installation of storm drainage facilities between the O-1 Guideway and Pimmit Run Bridge has begun.*
- **Operations Area OP-4 (Tysons East Guideway/Station),** *five caissons along the DCR and three caissons along Route 123 have been completed*. Caisson installation continues for two piers on the DCR. Excavation work at Tysons East Station in preparation for caisson installation *has been completed*. *Pile caps at two piers and the pile cap at Abutment A at the east end of the guideway have been completed*. *The placement of rebar at two pile caps continues.*
- **Operations Area 5 (I-495 Crossing),** *installation of caissons for piers # 52 and #58 have been completed, and the installation of support of excavation (SOE) for the pile caps continues at those piers*. *The installation of caissons for pier #53 continues and the contractor has mobilized for caisson installation at pier #45*. *The contractor is also installing SOE soldier piles at the Tysons Central 123 Station.*
- **Operations Area OP-6 (Laydown Area #6/NATM Tunnel/West Cut & Cover),** *342-feet of the outbound tunnel and 126-feet of the inbound tunnel have been completed*. *Excavation has been completed for Stage 1B of the west cut and cover tunnel*. *Mud mats are being poured in preparation for the invert slab.*

- **Operations Area OP-7 (Tysons Central 7 Station)**, the forming and pouring work for the retaining wall at the Pikes 7 Shopping Center continue. *Paving in the median area of Route 7 between Route 123 and the Best Buy area west of Gosnell Road continues in preparation for the road shift. Grading at the south side of the Route 7 service road continues in preparation for the road shift.*
- **Operations Area OP-9 (DIAAH)**, work at the Washington and Old Dominion (W&OD) bridge continues with *the completion of the pier column and cap at the east intermediate pier, pouring the east abutment walls, the installation of SOE for the west abutment and forming and pouring of retaining walls west of the bridge. Grading work continues for retention ponds #3 and #4 along the east bound Toll Road and the installation of storm drains west of Hunter Mill Road.*
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)**, caisson installation for the station substructure continue with *61 of 86 caissons completed. Work continues on preparation for the installation of H-piles at the pedestrian bridge footings. The excavation and construction of pile caps continues. The installation of the storm water drains continues in the median between DIAAH and the Toll Road.*
- **Laydown Area #10 (Pre-cast Yard)**, work continues on the casting of segmental box girders with *172 segments completed. The quality of concrete continues to be tested and monitored. The set up of the gantry crane on the east side of the facility is nearing completion.*
- **Laydown Area #11 (Soils Stockpile)**, the facility continues to receive soil from the Project.

It is the PMOC's opinion that while work remains behind schedule; DTP continues to add resources to mitigate. As of January 31, 2009, the project is 21 calendar days late.

b. Third Party Coordination & Agreement Status

All Intergovernmental Agreements and Agreements with utility companies were executed prior to the FFGA.

- **Real Estate**

Real Estate Acquisition continues to keep ahead of construction requirements, often resorting to ROE to gain access to required parcels. Through *January 2010*, 54 of the 99 parcels required for the Project have been acquired.

The table below summarizes acquisition activities for the Project through *January 2010*.

PARCELS ACQUIRED¹
(Number of parcel packages)

LOCATIONS	TOTAL	Period			To Date				
		Planned ²	Actual	Var	Planned ²	Actual	Var	WITH CONDEMN ³	
								ACT.	VAR.
Route 66 / Dulles Connector	1	0	0	0	1	1	0	1	0
Route 123	23	0	0	1	7	6	(1)	14	7
Route 7	51	0	2	2	31	17	(14)	33	2
DIAAH	24	0	0	0	16	3	(13)	6	(10)
TOTAL	99	0	2	2	55	27	(28)	54	(1)

Notes: 1. Parcels secured through recordation of deed/easement. These values do not include rights obtained for another 27 parcels for which Certificates of Take have been filed.
2. Planned values are based on the August 25, 2008 data date schedule.
3. These values include rights acquired through filing of a certificate of Take and Deeds.

c. Utility Coordination

The various utility companies continue to relocate their facilities for the project. Utility coordination meetings are held with the various utilities to schedule and coordinate work. Specific utility relocation work completed in *January 2010* includes the following:

- *Along Route 7*, Verizon continues with fiber optic splicing in manholes at SAIC (Segment 2), and continues splicing fiber optic cables between Gosnell and Spring Hill Roads. Verizon continues to install copper cable between Tyco/Westwood to Route 267/Toll Road. Since this work will not be completed by the March 1, 2010 date, MWAA has developed a work-around. Lane continues to install manholes and ductbank associated with the 34.5 kV bypass (TERF By-Pass).
- *Along Route 123 between Route 7 and the Route 267 Connector Road*, Washington Gas continues with their gas line installations between Tysons Boulevard and Westpark Drive and between Scott's Crossing to Capitol One. Abovenet continues cable installations at Scott's Crossing. MCI is installing conduits at Scotts Crossing. Installation of waterline and connections to existing facilities at the Route 123/DCR continues.
- *Along the DIAAH and Dulles Toll Road*, the installation of the 34.5 kV traction power ductbank at ramps from Route 7 to the Toll Road continues. The jack and bore casings have been installed at crossing #155 (W&OD) and #154 (Wiehle Avenue have been completed.

d. Vehicle Procurement

WMATA is acquiring the 64 vehicles required for the project. Negotiations have been proceeding with the three proposers selected to submit best and final offers. The contract

award is *now* anticipated for the *March 26, 2010* WMATA Board Meeting. The schedule requires the last (64th) car to be delivered by September 20, 2013.

e. Safety & Quality Status

MWAA's QA group continues to monitor DTP's quality program and maintains a schedule of audits and surveillances. In addition, MWAA continues to perform safety walkdowns with DTP. In December 2009, the third crane incident by a DTP subcontractor occurred on the O-1 Guideway when a reinforcing cage swung briefly over the Airport Connector Road inner traffic lane. An incident investigation was conducted and an incident review board convened which was chaired by DTP and attended by MWAA representatives. MWAA expressed their concern by letter dated December 15, 2009, which was responded to by DTP on December 28, 2009. The response is under review by MWAA. Actions instituted by DTP include the assignment of a rigging engineer to supervise all lifts by the subcontractor. In addition, MWAA has scheduled an audit of the subcontractor's safety program on February 3-4, 2010.

During January 2010 the following QA audits were performed:

- DTP's Subcontractor/Supplier Submittal Process and DTP Non-Conformance Control System were audited on January 6-7, 2010, and no corrective actions or observations were found. The audit has been closed.
- DTP's Environmental program was audited on January 13-14, 2010, and no corrective actions or observations were found. The audit has been closed.
- MWAA's QA Program was audited on January 20-21, 2010 and the report is yet to be issued.
- The CTI Special Inspection Quality Program was audited on January 27-28, 2010 and there were no corrective actions but nine issues were observed. MWAA is awaiting CTI's responses to the observations.

The QA Audit and Surveillance Schedule through June 2010 follows:

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/ Surv.	Lead
TBD	S	DuBrook Concrete	Y	DTP
2/3-4/10		Brayman Construction Safety Program	Y	MWAA
2/17 – 2/19/10	A	Powell Electric	Y	DTP
2/17 – 2/18/10	A	DTP Construction Safety Program	N	MWAA
2/24 – 2/25/10	A	DTP Acquisitions	Y	MWAA
3/10/10	S	DTP Subcontractor/Supplier Submittal Process: DTP Nonconformance Control System	N	MWAA
3/17 – 3/18/10	A	DTP Construction and Quality Control (QC)	N	MWAA
3/24 – 3/25/10	A	DTP QA, Document Control, Training	N	MWAA
4/7 – 4/8/10	A	Truland Walker Seal JV	Y	DTP
4/21 – 4/22/10	A	DTP Safety and Security	N	MWAA
4/28 – 4/29/10	A	DTP Engineering	Y	MWAA
5/12/10	S	DTP Subcontractor/Supplier Submittal Process: DTP Nonconformance Control System	N	MWAA
5/19 – 5/20/10	A	Alstom Signaling	Y	DTP
5/26/10	S	Titan Concrete	Y	DTP
6/10/10	S	DuBrook Concrete	Y	MWAA
6/23 – 6/24/10	A	Rizzani De Eccher	Y	DTP

3. Project Schedule

The most recent project schedule update has a data date of *December 25, 2009*. MWAA continues to meet bi-weekly with DTP to review and discuss the updated schedules with the view of understanding DTP's logic and mitigating delays. MWAA *disagreed with most of* DTP's schedule updates. The primary critical path in the *December update* reflects a -21 calendar days (CD) variance in the achievement of the Scheduled Substantial Completion Date (SSCD) in the approved baseline schedule. *This represents a twenty calendar day improvement over the previous schedule update.* DTP's primary critical path originates with the *installation of caissons for the Tysons East Guideway, specifically starting with the sub-structure foundations being performed by the caisson subcontractor, Brayman, at piers #7-OB and #8-OB, and then moving the operations to Tysons East Station. The major portion of the critical path is the construction of Tysons East Station, from aerial guideway substructure through fit out of the Traction Power Supply Stations and Automatic Train Control equipment rooms and system testing.* MWAA does

not agree that the critical paths presented as being representative of the actual critical path of the project. MWAA has notified DTP that the changes to the critical path from one monthly update to the next must be agreed upon. DTP has been requested to develop a procedure that allows this to occur prior to the monthly update. The resolution is that changes to the critical path agreed upon at the joint monthly update review meeting will have to be incorporated prior to the tenth day of the month pursuant to Division 1, Section 01322, Part 2.03.D of the contract specifications.

As a result of the bi-weekly meetings held between MWAA and DTP with regard to the schedule and schedule mitigation efforts, each schedule update reflects a different critical path. It is the PMOC's opinion that MWAA is maintaining control over the Project *master* schedule.

a. Critical Path Evaluation

The PMOC agrees with MWAA's assessment regarding the critical path,

b. Important Activities – 90 Day Look Ahead

The important milestones that are expected to be completed during the next 90 – days include the following:

- Completion of the engineering for the K-Line Tie-in (OP-1),
- Completion of the engineering for the Cut and Cover Tunnel *and the engineering of the Route I-66 Crossing* (OP-2), Completion of the engineering for Tysons East Station (OP-4),
- Completion of the engineering for Tysons East Aerial Guideway (OP-5),
- Completion of the engineering for NATM Tunnel (OP-6),
- *Completion of the property acquisitions for the Tysons West Aerial Guideway (OP-8),*
- *Completion of the engineering for the Tysons West Station (OP-8),*
- Completion of the engineering for the at-grade trackwork (OP-9), and
- Award of the 7000 Series Rail Car contract.

4. Project Cost

The SCC Budget and Expenditures summary for the period ending December 25, 2009 is as follows.

FTA SCC CODE	DESCRIPTION	BASELINE BUDGET	CURRENT BUDGET ¹	EXPENDED TO DATE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 666,500,284	\$ 629,113,126	\$ 56,008,493	\$ 629,113,125
20	Stations	\$ 317,023,977	\$ 319,996,138	\$ 14,894,265	\$ 319,996,138
30	West Falls Church Yard	\$ 51,789,538	\$ 52,019,358	\$ 2,325,348	\$ 52,019,358
40	Site Work & Utility Relocation - PE ²	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000
40	Site Work & Utility Relocation - FD ³	\$ 232,936,985	\$ 229,409,840	\$ 64,386,034	\$ 222,968,135
50	Systems – FD	\$ 278,157,645	\$ 296,778,056	\$ 15,941,716	\$ 294,380,528
60	Right of Way Acquisition – FD	\$ 45,953,303	\$ 45,953,304	\$ 46,684,874	\$ 69,784,663
70	Vehicles – PE	\$ 526,000	\$ 526,000	\$ 526,000	\$ 526,000
70	Vehicles – FD	\$ 211,103,775	\$ 211,103,775	\$ 1,558,050	\$ 210,400,012
80	Professional Service – PE	\$ 170,881,000	\$ 170,902,413	\$ 170,902,413	\$ 170,902,413
80	Professional Service – FD	\$ 527,590,480	\$ 542,958,106	\$ 195,882,904	\$ 554,865,832
90	Contingency Mgmt. Reserve	\$ 130,000,075	\$ 133,702,948	\$ -	\$ 107,480,339
100	Finance Charge	\$ 509,984,571	\$ 509,984,571	\$ -	\$ 509,984,571
TOTAL (Federal portion)		\$ 3,142,471,634	\$ 3,142,471,634	\$ 569,806,575	\$ 3,142,471,634

1. Current budget equals FFGA amount plus approved Change Orders CO-001 through CO-039 excluding CO-017, CO-033 and UR Change Orders UR-CO-001 through UR-CO-018.
2. Preliminary Engineering Period (PE) – Prior to May 25, 2008
3. Final Design Period (FD) – May 25, 2008 through December 25, 2009

Overall, approximately 18% of the budget has been expended through December 25, 2009.

a. Explanation of Variances

The major variance is the nearly \$24 million increase in the right-of-way (ROW) acquisition. This was due to a single property that had been anticipated as being a dedication having to be acquired by condemnation.

b. Project Funding Sources

SOURCES OF CAPITAL FUNDING	PERCENT AT COMPLETION	TOTAL	EXPENDED IN THIS PERIOD ¹	EXPENDED TO DATE ²	PERCENT FUND SOURCE EXPENDED TO DATE	REMAINING
Sec 5309 New Starts Federal Funding						
PE Grant		\$ 54,415,526	\$ -	\$ 54,412,526		\$ -
Final Design Grant		\$ 159,001,838	\$ -	\$ 136,650,500		\$ 22,351,338
ARRA Grant		\$ 77,260,000	\$ 77,260,000	\$ 77,260,000		\$ -
STP Grant		\$ 47,218,109				
FFGA Balance		\$ 562,107,527	\$ -	\$ -		\$ 609,325,636
Subtotal – New Starts	28.64%	\$ 900,000,000	\$ 77,260,000	\$ 268,323,026	29.81%	\$ 631,676,974
Other Federal Funds						\$ -
STP/Sec. 5307	2.39%	\$ 75,000,000	\$ -	\$ -	0%	
Local Funds						
VTA 2000		\$ 51,700,000	\$ -	\$ 51,700,000		\$ -
Commonwealth Transportation Bonds		\$ 125,000,000	\$ 4,354,966	\$ 34,813,087		\$ 90,186,913
Fairfax County Funds ³		\$ 523,750,000	\$ 1,879,705	\$ 25,000,000		\$ 498,750,000
Dulles Toll Road Revenues ⁴		\$ 1,467,021,634	\$ 15,079,367	\$ 189,970,463		\$ 1,277,051,171
Subtotal – Local Funds	68.97%	\$ 2,167,471,634	\$ 21,314,038	\$ 301,483,550	13.91%	\$ 1,865,988,084
Total Project Budget	100%	\$ 3,142,471,634	\$ 98,574,038	\$ 569,806,576		\$ 2,572,665,058

¹ Reflects costs from September 2009 through December 2009

² Reflects costs through December 2009

³ Includes Tax District Revenues (\$400M) plus debt service costs to Project Budget

⁴ Includes pay as you go revenues and commonwealth bond proceeds

5. Project Risks

The PMOC commenced the risk assessment process with the first workshop held April 4-7, 2006. Risk Assessment Workshops were held on June 12-14, 2007 and July 10-12, 2007 at the Project offices.

In August 2008, the PMOC was directed by the FTA to resume the risk process and to prepare a report that combines the requirements of PG-40: Subtasks PG-40E, PG-40F, and PG-40G. These subtasks are to identify the framework for primary and secondary mitigation of project cost and schedule. A draft PG-40EFG report was prepared and the Risk Register was updated. The documents were shared with MWAA and a workshop was held on August 26-27, 2008 to review the Risk Register, reach a consensus on the top ten cost and schedule risks and to identify MWAA's cost, schedule and secondary mitigation procedures. The PMOC issued the Final PG-40EFG spot report on October 6, 2008.

Through *December 25, 2009*, MWAA had utilized *\$68,483,292* of the available authorized contingency of *\$99,000,000* for Contingency Phases 1 and 2. These phases were to carry the Project through the completion of stations design which was anticipated to have been completed by the end of the third quarter of 2009. The completion of stations design is now anticipated during the second quarter of 2010. Of the total project contingency of *\$297,762,579*, *\$229,279,287* remains available.

With regard to Schedule Contingency, the Project has utilized *twenty-one* calendar days of the total of 510 calendar days. *The balance in schedule contingency is 489 calendar days.*

MWAA has been following their Risk Management Plan dated October 2008. The following are the Project's top 10 cost and schedule risks, along with their current status.

Top 10 Project Risks

Risk No.	Risk Description	SCC Reference	Risk Category		Status (Change from Previous Month)
			Cost	Sched	
M-21	Allowance items- a substantial part of the contract price is tied to "Allowance Subcontracts."	10, 20, 30, 40, 50	X	X	Unchanged. The award in November of the trackwork/contact rail subcontract, Allowance Items C1 and C16, signifies that nearly half of the value for all the Allowance Items has been procured and the cost has been transferred to Fixed Price. The variance of the awarded cost versus allowance budget is \$23.24 million.

Risk No.	Risk Description	SCC Reference	Risk Category		Status (Change from Previous Month)
			Cost	Sched	
C-8	NATM tunnel—there are a limited number of qualified tunneling contractors, unforeseen conditions, tunnel collapse, production rate slower than anticipated, and possible critical path delay.	10.07	X	X	Unchanged. The contractor is self-performing this work. Mining construction has commenced, with 342-feet of excavation complete on the outbound tunnel and 126--feet of excavation complete on the inbound tunnel.
C-29	Soils Management – risk that costs for disposal of soil (clean and contaminated) may exceed budget.	40.1	X	X	Unchanged. Agreements with MWAA allow “clean” soils, which represent about 90% of all project soils to be transferred to Laydown Area #11, and management of contaminated soils is being mitigated as schedule progresses.
C-34	Utility companies performing utility relocation are not performing in accordance with the durations incorporated in the project schedule.	40.02	X	X	Decreased. Replaced risk C-14. Although the utility companies are outside the direct control of the Project’s management most of the utility companies have cooperated in any delay mitigation efforts including working additional shifts, nights and weekends for critical work.
M-16	Cost risk for vehicle procurement – size and timing of base order and options could change the car manufacturer’s interest in project and proposal pricing; vehicles may not be available in time for revenue operations.	20.01 20.02	X	X	Unchanged. Bids were received on June 19, 2009. WMATA evaluated the proposals and short-listed three manufacturers. Negotiations commenced on September 25, 2009. The anticipated award date is February 26, 2010.
M-12	Unpredictability of ROW settlement costs.	10.04	X		Unchanged. Use of condemnation has increased the ROW costs.
C-20	WMATA scope of work, including site access support, technical support and WMATA construction elements may exceed the budget and schedule. In addition, there is the risk that WMATA will have difficulty supporting the DB contractor’s requirements.	10.00 20.00 50.00	X	X	Unchanged. Technical support for design has been generally provided in a timely manner. SSWPs required to access WMATA property are lengthy. There is potential for this risk to increase as more DTP construction activities commence.

Risk No.	Risk Description	SCC Reference	Risk Category Cost Sched		Status (Change from Previous Month)
D-19	Cost of Dominion Virginia Power (DVP) 34.5 kV distribution – Level of design is not typical of 100% PE design.	50.04	X		Unchanged. Design of ductbank that will contain 34.5 kV power the length of project has been completed and the ductbank construction has begun. Design by DVP to bring power to project has not been completed.
D-27	Permit Approvals – Potential delays due to the Virginia Department of Transportation (VDOT) requiring their review/approval of final design plans prior to issued for proposal (IFP) submittals. Potential delays due to the Department of General Services (DGS) making design-related comments rather than strictly permit/code comments.	10.00 20.00 40.00	X	X	Unchanged. The issuance of construction permits is taking longer than anticipated and the contractor is claiming that its costs are increasing. The Six Sigma process improved turn-around time with VDOT. The VDOT requirement for final design plans prior to IFP submittals may increase the risk. In addition, DGS is making design-related comments rather than strictly code/permit evaluations.

6. Action Items

MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
1	2A.01	PMP Update	MWAA's PMP needs to be updated to reflect the new integrated organization.	Y	N	N	The integrated organizational structure has been formally implemented, and the PMP is now being updated to reflect this. MWAA received the PMOC's comments from the PMP Compliance Review held on October 14, 2009. MWAA anticipates updating the PMP in <i>late</i> February 2010.	R

KEY ITEM

Subtask 2A.
Subtask 2B

CLIN 0002A – PMP Review
CLIN 0002 – On-Site Monitoring

LEGEND

PRIORITY (PR) CONTRACTOR STATUS

1- Most Critical

2- Critical

3- Least Critical

GRANTEE ACTION

D – Remedial Action Developed

A – Remedial Action Approved

I – Action Implemented

PMO

R – Review On-going

C – Completed – No further review required

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

APPENDICES

APPENDIX A – LIST OF ACRONYMS

ARRA	American Reinvestment and Recovery Act
BFMP	Bus Fleet Management Plan
CD	Calendar Days
CPM	Critical Path Method
DB	Design-Build
DGS	(Virginia) Department of General Services
DIAAH	Dulles International Airport Access Highway
DTP	Dulles Transit Partners, LLC
DVP	Dominion Virginia Power
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FY	Fiscal Year
IFP	Issued for Proposal
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor
PMSS	Project Management Support Services
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QPP	Quality Program Plan
RAMP	Real Estate Acquisition Management Plan
RFMP	Rail Fleet Management Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROE	Right-of-Entry
ROW	Right-of-Way
<i>SOE</i>	<i>Support of Excavation</i>
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
<i>SSWP</i>	<i>Site Specific Work Plan</i>
VDOT	Virginia Department of Transportation
W&OD	Washington and Old Dominion
WFC	West Falls Church
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX E – PMOC TEAM PERFORMING THIS REVIEW

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[Redacted]

[Redacted]

Appendix B - Project Overview and Map

Date: February 19, 2010 (reporting current through January 2010)

Project Name: Dulles Corridor Metrorail Project – Extension to Wiehle Avenue

Grantee: Metropolitan Washington Airports Authority (MWAA)

FTA Regional Contact: Brian Glenn, P.E.

FTA Headquarters Contact: Dale Wegner, P.E.

Scope

- **Description:** MWAA The Project is the initial 11.7-miles of the LPA, which will run from the current Metrorail Orange Line near the West Falls Church (WFC) station to Wiehle Avenue in Reston, providing direct service to the commercial and office center of Tysons Corner. The Project will be constructed in or parallel to the Dulles Connector Road, Routes 123 and 7 through Tysons Corner, and the Dulles International Airport Access Highway (DIAAH). It will include five new passenger stations, one 2300-car parking facility (provided through a joint development agreement), improvements to the existing WFC Service and Inspection Yard, tail tracks outbound of the interim terminus station at Wiehle Avenue, and the procurement of 64 rail cars.
- **Guideway:** Phase 1 is approximately 11.7 miles in length consisting of two tracks.
- **Stations:** There are five stations in Phase 1. Each station will include a kiss-n-ride area; bus drop-off facilities; station platforms with benches, canopies, ticket vending machines; and other amenities.
- **Support Facilities:** There will be a modification to the West Falls Church Yard and service building. A tail track will be constructed beyond the Wiehle Avenue Station.
- **Vehicles:** The Project is planning to purchase sixty-four vehicles for Phase 1 which will be procured by WMATA.

Ridership

The Project is estimated to carry 69,700 average weekday riders during opening year.

Schedule

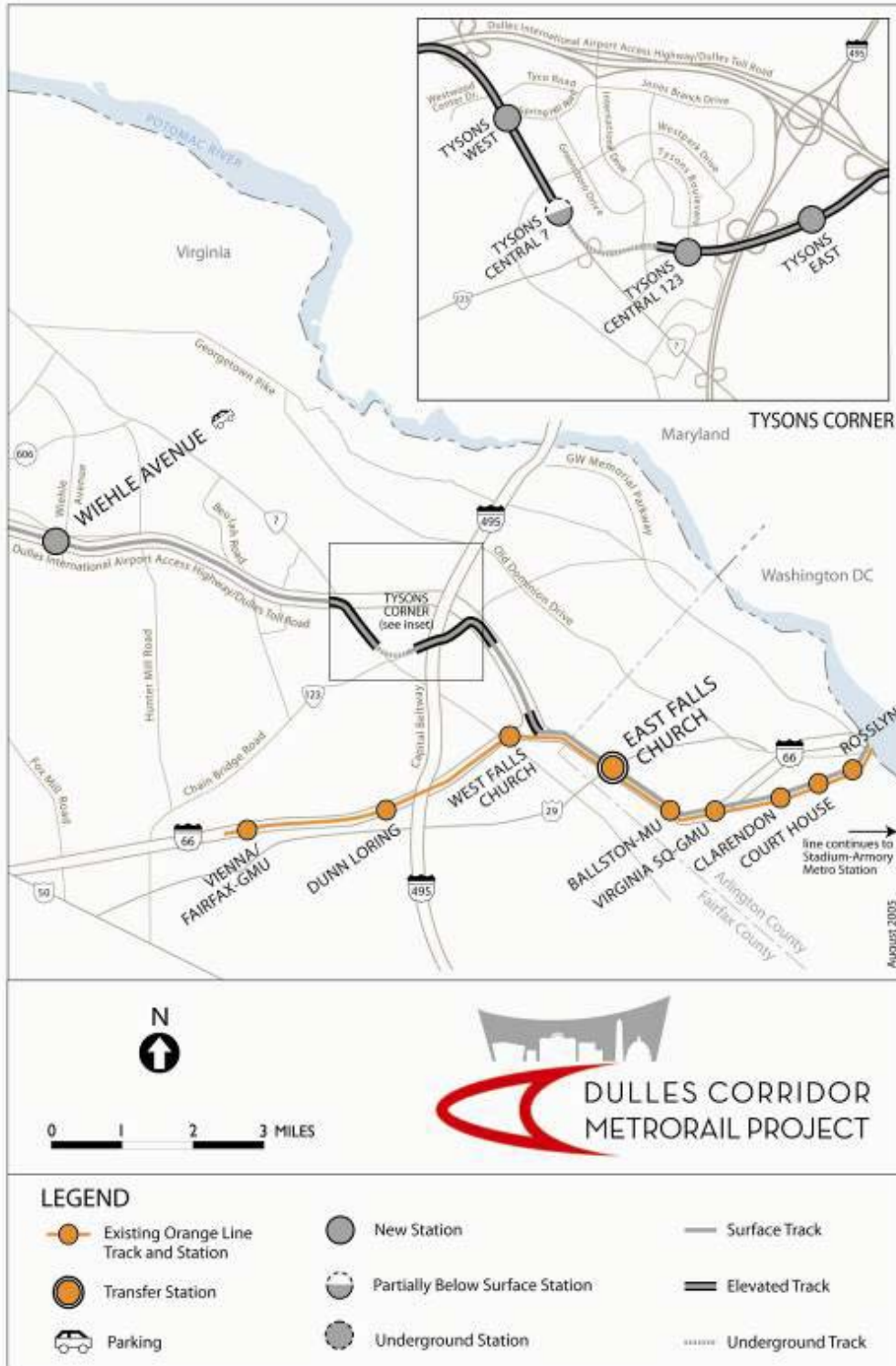
06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
12/25/13	Revenue Operations Date (ROD) at date of this report		
25.5%	Percent Complete Construction at date of this report		
14.6%	Percent Complete Time based on ROD of December 1, 2014 (based on FFGA)		

Cost

\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
\$ 569.8 million	Expenditures to date from total project budget of \$3.142 billion
18 %	Percent complete based on expenditures to date
\$229.3 million	Total project contingency remaining (allocated and unallocated)

Project Map

APPENDIX B – METRORAIL EXTENSION TO WIEHLE AVENUE



APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST

Project Overview			
Project mode (Rail, Bus, BRT, multimode)		Rail	
Project phase (Preliminary Engineering, Design, Construction, or Start-up)		Design and Construction	
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGG, etc)		Design/Build	
Project Plans	<i>Version</i>	<i>Review By FTA</i>	Status
	Safety and Security Management Plan	9/2009	Accepted
Safety and Security Certification Plan			Under development; 98% complete
System Safety Program Plan			WMATA
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA
Construction Safety and Security Plan			Addressed in PMP which is under revision.
Safety and Security Authority	Y/N		Notes/Status
Is the grantee subject to 49 CFR Part 659 state safety oversight requirements?	Y		Tri-State Oversight Committee (TOC)
Has the State designated an oversight agency as per Part 659.9	Y		
Has the oversight agency reviewed and approved the grantee's SSPP as per 659.17?	N		WMATA's SSMP will be used. SSMP, Rev.1 dated 6/4/09
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	N		
Did the oversight agency participate in the last Quarterly Program Review Meeting?	N		
Has the grantee submitted its safety certification plan to the oversight agency?	N		Plan in progress. TOC participates in monthly meetings.
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N		WMATA will be operator.

SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	
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.	N	WMATA
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	N	WMATA
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	N	WMATA
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	N	WMATA
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	N	WMATA
Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	
Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Design and Construction only. WMATA participates
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
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	
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	Y	In progress, 98% complete.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	After SSCD
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	Y	
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following: • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan	Y	
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	
Construction Safety		
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	DTP's Construction Safety, Health and Security Plan accepted on January 6, 2009.
Does the grantee's contractor(s) have a site-specific safety and security program plan?	Y	
Provide the grantee's OSHA statistics compared to the national average for the same type of work?	N	
If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?		
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	

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

APPENDIX D – ACTION ITEMS

MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
1	2A.01	PMP Update	MWAA's PMP needs to be updated to reflect the new integrated organization.	Y	N	N	The integrated organizational structure has been formally implemented, and the PMP is now being updated to reflect this. MWAA received the PMOC's comments from the PMP Compliance Review held on October 14, 2009. MWAA anticipates updating the PMP in February 2010.	R

KEY ITEM

Subtask 2A.
Subtask 2B

CLIN 0002A – PMP Review
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

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