

COMPREHENSIVE MONTHLY REPORT

MARCH 2010

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

April 26, 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: 

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 March 31, 2010 to conduct a monthly progress meeting (in conjunction with the FTA Quarterly Progress Meeting for the period December 2009 through February 2010) for work performed in March 2010. The full time on-site PMOC attended various project meetings throughout this reporting period and participated with MWAA and FTA representatives in a complete field tour of the Project on the morning of March 31, 2010. Future PMOC monthly progress meetings are planned to 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 *April 1, 2014*. 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 March 31, 2010 to conduct a monthly progress update meeting for work accomplished in March 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 continues to lag *behind the baseline schedule but currently does not affect construction progress. Final Design of the stations was originally anticipated to be completed by the end of the third quarter of 2009. Final design of the station structures has been completed and submitted for review and coordination. Upon receipt and incorporation of all comments, these designs will be permitted and the structures will proceed on foundations already under construction. This design excludes the access pavilions and final bridge alignments subject to*

coordination with adjacent developers. Overall design completion of the five stations through “Issued for Construction” (IFC) drawings including pavilions is now anticipated to be completed in the third quarter of the 2010. Overall project design is approaching 90% complete as of the end of March 2010. The project design is not currently affecting the schedule’s critical path. MWAA needs to provide the PMOC with the impact on cost contingency as a result of finalizing station design.

Construction progress is broken into two components: utility relocation which is 86% complete and design-build (DB) construction which is approximately 12% complete. *The majority of the utility companies are forecast to complete their work in late April 2010. Verizon is forecast to complete its work in late May and MCI is forecast to complete its work in late June. It is anticipated that an east-bound Route 7 road shift will occur in mid-May 2010. The west-bound Route 7 road shift is not scheduled to occur until late summer 2010.*

The OP-1 Guideway is approximately 38% complete. The Tysons East Guideway/Station is approximately 19% complete and the NATM Tunnel is approximately 19% complete. Tysons East Station is approximately 5% complete and Tysons Central 123 Station is approximately 1% complete. The Wiehle Avenue Station is approximately 7% complete. The pre-cast yard is approximately 95% constructed and has cast 341 concrete box girders segments to date.

The Schedule continues to slip with the most current update (data date of February 25, 2010) showing an additional -20 day loss for a total -70 calendar days variance from the approved baseline schedule. This results in a projected ROD of January 23, 2014. DTP further shows in the February schedule, a West Falls Church Yard upgrade completion of April, 2014 which has apparently been disconnected from the critical path since it is beyond the targeted ROD in the same schedule. MWAA continues to note that it does not agree with the critical paths presented by DTP as being reflective of the critical path of the Project. *It is the PMOC’s opinion that a 49 day loss in a 59 day period is concerning and suspects that some portion of those losses must be reflective of DTP’s failure to correctly determine and/or depict logic and durations of the critical path activities in the schedule. MWAA will be meeting with DTP to discuss the disagreement on the schedule’s critical path. MWAA anticipates that the discussion and agreement on the critical path will significantly lessen the 70 day loss currently shown on the schedule.*

It is further the PMOC’s opinion that recovery of the remaining portion of the reported schedule losses is well within the Project’s ability via work-arounds and schedule adjustments. Therefore the Contract Completion Date is not considered to be in serious jeopardy at this time. *However, the longer disagreement on critical path, logic and delay issues continue, the greater is the risk of irretrievable schedule creep leading to costly schedule compression or constructive acceleration.*

Budget status as of February 25, 2010 indicates that \$612,678,666 (19%) has been expended of the \$3,142,471,634 budget total. \$62,466,521 of the available contingency for the first two contingency milestones has been utilized with a remaining balance of \$36,533,479 available through the completion of stations design, which is now anticipated to be completed on June 7, 2010 with the Tysons West Station Civil Design. *(Please note that there was a net increase of \$6,066,771 in the contingency balance in February due to a correction/reallocation to the non-*

Federal contingency for costs related to two Traction Power Sub-Stations). MWAA's estimate of the earned value for the Project through February 2010 is 29.5%.

3. PMOC's Assessment of Project Status

The PMOC continues to observe delays in the design development particularly with regard to station design and now with the systems designs. To date, this has not had an impact on the critical path. *However, some of the late design packages are beginning to exhibit some negative float on the February schedule. The impact on cost contingency for the complete station design milestone has not been determined.* DTP's quality review of their submittals continues to be subpar. MWAA continues to meet with DGS, VDOT, WMATA and DTP to coordinate and resolve the design and design review issues. MWAA's ongoing efforts have yielded progress.

Utility relocation continues with fifteen different utility companies striving to meet the requirements of the Project. Efforts to recover lost time caused by harsh winter weather and unforeseen obstacles continues along the Route 7 corridor utilizing extra shifts and weekend work. Completion of utility relocation work is critical to the project's plans to shift the Route 7 roadway to support construction starts at Tysons Central 7 and Tysons West Station areas. The majority of these utility companies are forecast to complete their work by late April 2010. Verizon is forecast to complete its work in late May and MCI is forecast to complete its work in late June. It is anticipated that an east-bound Route 7 road shift will occur in mid-May 2010. The west-bound Route 7 road shift is not scheduled to occur until late summer. The civil contractor and the utility contractors meet on a weekly basis to coordinate their efforts and priorities needed to support the upcoming roadway shifts.

The estimated Full Time Equivalent (FTE) total for March is 1,263, which is an increase from the February actual count of 1,083. *DTP expects to ramp up its FTE's to approximately 1,302 by late June 2010.* The pre-casting facility has produced 341 of 2,600 pre-cast concrete girder segments. The quality of the pre-cast concrete by Titan Concrete, Co. was a cause of concern. Therefore, the decision was made to replace Titan with the Dubrook Concrete Company during the month of March 2010. *The New Austrian Tunneling Method (NATM) tunneling is on-schedule with the contractor completing 588 of 1,670 feet for the Outbound (OB) track and 345 of 1,686 feet for the Inbound (IB) track.*

On February 17, 2010, DTP submitted "Revised Drawings for Inspection and Testing of the Existing H-Piles", dated February 3, that outlined the detailed activities for each individual pier foundation. DTP also provided an informal copy of the "Plan for Inspection and Testing of the Existing H-Piles" Rev. 0, dated 2/12/10. On March 3, MWAA and CTI met to introduce Mr. Bruce Spiro from CTI who will serve as MWAA's test expert to oversee DTP's test activities. The Inspection Plan was reviewed again during this meeting with *additional revisions requested by Mr. Spiro.* MWAA and CTI met again the same day with Mr. Lloyd Young who is DTP's test expert and who developed the test plan. A final Rev.0 of the Test Plan was approved by MWAA on March 30, 2010. *Pier 7-IB is tentatively scheduled for testing on April 13. A tentative schedule for testing of the remaining 10 existing pier foundations has been distributed.*

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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 to replace the Manager of Project Administration which *was* the only remaining vacancy in the MWAA Project organization *has been completed*. MWAA introduced the new Manager of Project Administration, Felicia Payne, at the March 31, 2010 QPRM. Ms. Payne will start in mid-April.

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. However, sign-offs on the SCIL are lagging behind as are the necessary corrective actions cited from the first and second 90-day SCIL sign-off. Revision 2 of the SCIL *was distributed on March 15, 2010*.

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 April* 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 has updated the RFMP to reflect the 7000 Series Cars' quad concept *and has submitted a draft copy dated February 26, 2010 to the FTA for review and comment. WMATA plans to discuss the plan with its Board in May with a potential Board adoption in June 2010. The PMOC issued its Spot Report on its review of the draft RFMP on March 11, 2010, finding the plan to be deficient in many areas. The FTA provided comments to WMATA on March 15, 2010 based on the PMOC's Spot Report. The PMOC met with WMATA on April 6, 2010 to review the comments on the draft RFMP.*
- MWAA's Safety and Security Management Plan, Revision No. 6 dated January 2009 was accepted by the FTA on January 27, 2009. *MWAA submitted the SSMP, Revision 7, to the FTA on September 23, 2009. The changes in Revision 7 were minor in nature and reflected changes in personnel assignments, integration of the Fire/Life Safety Working Group with the Safety/Security Certification Working Group, and updates to schedules. Due to the minor nature of the changes, no response is expected from the FTA.*

2. Project Scope

a. Bidding & Construction Status

- Utility relocation is 86% complete and DB construction is approximately 12% complete. Utility companies continue to relocate their facilities into the duct banks and facilities installed by MWAA's utility contractor. *Fifteen different utility companies are striving to meet the requirements of the Project. Efforts to recover lost time caused by harsh winter weather and unforeseen obstacles continues along the Route 7 corridor with extra shifts*

and weekend work. Completion of utility relocation work is critical to the project's plans to shift the Route 7 roadway to support construction starts at Tysons Central 7 and Tysons West Station areas. The majority of these utility companies are forecast to complete their work by late April 2010. Verizon is forecast to complete its work in late May and MCI is forecast to complete its work in late June. It is anticipated that an east-bound Route 7 road shift will occur in mid May 2010. The west-bound Route 7 road shift is not scheduled to occur until late summer. The civil contractor and the utility contractors meet on a weekly basis to coordinate their efforts and priorities needed to support the upcoming roadway shifts.

- *Work continues on the completion of designs, with stations' designs continuing to lag. The problems with regard to stations design are due to a combination of poor quality control of the documents and lack of sufficient resources. MWAA and DTP have met with the various permitting agencies. 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 permitting agencies. Efforts are also being made by VDOT and WMATA to improve the design review cycle times. Overall basic design for all five stations is reported as complete. However, the "Issued for Permit" (IFP) and subsequent "Issued for Construction" (IFC) drawings are proving to be a drawn out process. Approval of IFP drawings are anticipated in mid- to late-April 2010 for all five stations. Issuance of IFC drawings are now expected in mid-May to early June with the last package for the Tysons West Station scheduled for June 7, 2010 as shown in the Engineering Deliverables Schedule. Issuance of IFC design packages has not yet impacted the project's critical path. However, various design packages have now begun to accumulate negative float on the Project schedule. The impact on cost contingency for the complete station design milestone has not been determined.*
- *Through February 2010, \$225,086,548 of the \$437,278,511 Federal Allowance Items Budget had been awarded to subcontractors and suppliers. A \$23,237,893 overrun now exists for the 9 of 15 of both federal and non-federal Allowance Line Items awarded thus far. The remaining contingency for the applicable phase 1 and 2 items is \$36,533,479.*

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):** *DTP subcontractor Brayman completed the caisson for pier 1A OB, bringing the total to twenty-six caissons completed to date. The guideway column at pier 14 IB was poured, bringing the total to twenty-four completed to date. Pier caps at 13 IB, 14 IB and 16 IB were poured, bringing the total to twenty-four completed to date. The subcontractor completed the pile cap for abutment "B" OB. The subcontractor also completed the SOE installation and continued excavation at the existing 6 IB pier foundation on the WMATA side of I-66. SOE and excavation was completed at pier 7 IB on the Dulles Connector Road side of I-66 and demolition of existing pile cap commenced. Forming and pouring abutment "A" walls at Magarity Road Bridge and pile driving at the east abutment of Pimmit Run Bridge were both completed. The subcontractor continued SOE, drilling*

piles for the WFCY cut and cover tunnel at the median side of EB Connector Road and continued storm drain installation work east of Pimmit Run.

- **Operations Area OP-4 (Tysons East Guideway/Station):** *The subcontractor completed caissons at pier 11 IB/OB on the DCR, 44 IB/OB and 46 IB/OB north of I-495 and the pile cap at pier 19 IB/OB. Concrete placements at abutment A at the east end of the guideway were completed as were the column pours for piers 5 IB/OB and 19 IB/OB and the cap pour for pier 12 IB/OB. Subcontractor began mobilizing the segmental erection truss at the median of DCR east of Chain Bridge Road and continued caisson construction at the Tysons East Station and completed caissons at piers 30 OB, 30 IB, 34 OB and 35 OB.*
- **Operations Area 5A (I-495 Crossing/Tysons Central 123 Station):** *Caissons at piers 44 IB/OB, 46 IB/OB and 54 IB/OB were completed as were pile caps for piers 52 IB/OB, 53 IB/OB, 54 IB/OB and 58 IB/OB. Subcontractor also poured columns for piers 53 IB/OB and 54 IB/OB and continued installing SOE soldier piles and lagging at the Tyson Central 123 Station.*
- **Operations Area OP-6 (Laydown Area #6/NATM Tunnel/East Cut & Cover and Ventilation Structure):** *Subcontractor completed drilling the fourteenth set of arch canopy tubes in the OB tunnel and continued excavation to complete 588 ft of 1,670 ft to date. Subcontractor also completed drilling arch canopy tubes at the twelfth section of IB tunnel and continued excavating to complete 345 ft of 1,686 ft to date.*
- **Operations Area OP-6 (West Cut and Cover Tunnel):** *Site Excavation continues on stage 1B IB and installation of waterproofing and pouring of the slab at the OB tunnel continues.*
- **Operations Area OP-7 (Tysons Central 7 Station):** *Contractor continued retaining wall forming and pouring at the Pikes 7 Shopping Center and west of Gosnell Road, as does the grading at the south side of the Route 7 service road for the road shift. Also continuing is the installation of the storm drain piping at the south side in front of the Pikes Shopping Center and west of Gosnell Road continues.*
- **Operations Area OP-9 (DIAAH):** *DTP grading work completed on retention ponds 3 and 4 and continues on ponds 1, 5, 6 and 10 adjacent to the DTR. SOE and excavation at the W&OD bridge west abutment B was completed and piles for abutment B were started. DTP completed SOE and excavation for the West Abutment A at Hunter Mill Road Bridge and continued with the retaining walls on the OB and IB side west of Wiehle Avenue.*
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13):** *Subcontractor has completed all eighty-six of the caissons for the station substructure. Excavation and construction of pile caps continues with twenty completed to date. Also completed was the H-pile installation at the pedestrian bridge footing in the median between the EB and WB DTR/DIAAH.*

- **Laydown Area #10 (Pre-cast Yard):** Casting of segmental box girders continued with 341 completed to date. *The pouring of foundations for the long line station segment casting area continues.*

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 *March 2010*, 59 of the 99 parcels required for the Project have been acquired.

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

PARCELS ACQUIRED¹
(Number of parcel packages)

LOCATIONS	TOTAL	Period			To Date		
		Planned ²	Actual	Var	Planned ²	Actual	Var
Route 66 / Dulles Connector	1	0	0	0	1	1	0
Route 123	23	1	1	0	19	19	0
Route 7	51	0	0	0	33	33	0
DIAAH	24	0	0	0	6	6	0
TOTAL	99	1	1	0	59	59	0

- Notes: 1. Parcels secured through recordation of deed/easement *and filing of Certificates of Take*. 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 *March 31, 2010 Property Acquisition Status Update*.

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 *March 2010* includes the following:

- **Along Route 7 (Marshall's to Gosnell/Westpark)** – *DTP/Lane completed installing the 24 inch waterline crossing at Route 7, east of Gosnell and continued installing the 34.5 kV bypass ductbank and manholes at SAIC. DTP/Lane also completed the waterline connections at Westpark Drive and at SAIC. MCI continued to lower cables on the south side between the service road and Route 7.*

- **Along Route 7 (Gosnell/Westpark to Spring Hill Road)** – TCV Virginia continued tying into ductbanks at Spring Hill Road and Westpark Drive. Verizon continued installing Segment 4 conduits east of Spring Hill on the north side. XO continued tie-ins to ductbanks west of Gosnell Road and Quest continued pulling cables at Westpark and Gosnell.
- **Along Route 7 (Spring Hill Road to Tyco/Westwood)** – Washington Gas completed regulator installations at the Mercedes Benz Dealership and Verizon continued with copper and fiber cable splices in Segment 4.
- **Along Route 7 (Tyco/Westwood to Route 267/Toll Road)** – Verizon continued installing copper and fiber cables as part of Segment 4. Dominion continued cable pulling and splicing on the north side and continued with ductbank and switch/transformer pads on the south side. DTP/Lane completed the 34.5 kV bypass manhole and ductbank installations in front of the Sheraton Hotel.
- **Along Route 123 (Route 7 to the Route 267 Connector Road)** – DTP/Lane continues electrical ductbank installations to Crossings #115 at Colshire/Route 123 and installing waterline and connections to existing at the Rt. 123/Dulles Connector Road. Abovenet continues cable installations at Scotts Crossing and MCI completed relocation work and abandonment of cables at Scotts Crossing. DVP continued tie in of ductbanks at Scotts Crossing and Colshire Drive.
- **The DIAAH/Dulles Toll Road (Route 7 to Route 267 – DIAAH West)** - DTP/Lane continued installation of the 34.5 kV traction power ductbank in the median of the Toll Road west of Route 7 and the jack and bore crossing #157 east of Hunter Mill Road at TPSS #9. They also continued the traction power ductbank installation at the median between the WB Toll Road and the DIAAH east of Wiehle Ave. Dominion Virginia Power completed installation of the raised transmission towers at the W&OD Bridge.

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 WMATA Board chose not to act on the recommendation to award during their March 24, 2010 Board meeting. It is now anticipated that the WMATA Board will review the recommendation again during their April 22, 2010 Board meeting. MWAA expressed concern that this delay could potentially have an adverse impact on the ROD and plans further discussions with WMATA. MWAA also voiced disagreement with the Project's bearing all the design and prototype related cost for the 300 additional cars that WMATA is purchasing under the same procurement. MWAA CEO Bennett wrote to WMATA GM Sarles on April 7 regarding this matter. MWAA and WMATA plan to discuss this matter further. The schedule requires the last (64th) car to be delivered by September 20, 2013. However, WMATA's presentation to their Board indicated that the delivery of the 64th vehicle is now April 1, 2014.

e. Safety & Quality Status

The Airports Authority participated in six safety walk downs with DTP during the month of March. Two were related to utility relocation and four were related to Design-Build work. As of February 25, 2010, DTP had logged a total of 1.9 million project man hours with 25 first aid cases and no lost time cases. There were a total of 90 incident investigation reports, 60 utility hits and 13 vehicular accidents.

Revision 2 of the SCIL was distributed for review to the Airports Authority and WMATA on March 16, 2010 with a comment response request date of April 9, 2010. Two 90-day submittals of completed design conformance checklist items have been completed. Random samplings of items from both submittals have been reviewed. As a result of these reviews, both samples failed and have been returned to DTP for correction. Since the first two Design Checklist submittals have not been accepted, ANSI/ASQ Z1.4 requires that the level of sampling be increased. Therefore, the Project team is now conducting a review of all 386 items in the first two populations.

The third 90-day submittal of the Design Conformance Checklist was scheduled to be submitted on March 2, 2010. However, DTP has delayed this submittal until mid-April 2010 to address deficiencies in the first two populations and to prevent additional problems with future submittals. This submittal will include the initial sign-offs of items on the Construction, Procurement, and Installation Checklists. This checklist will be sampled and reviewed separately from the Design Conformance Checklist. WMATA will be implementing a procedure that involves potential selection of additional items from a checklist population for Airports Authority review in addition to those chosen randomly by the Project team for review. These items will be safety critical items selected on a “judgment” basis by the WMATA Safety Department. The Tri-state Oversight Committee (TOC) continues to meet monthly with the Safety/Security Certification Working Group and continues ongoing involvement in the certification process.

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..

During March 2010 the following QA audits/surveillances were performed:

- *DTP Acquisitions was audited on March 3 and 4, 2010. Three issues were cited with two requiring a response. A response was received on March 24. The responses were accepted pending final corrective action by DTP.*
- *A Quality surveillance of DTP’s subcontractor Facchina Construction Company was conducted on their Route 7 retaining wall construction. Six issues were found and a report is scheduled for issuance on April 6, 2010.*

The QA Audit and Surveillance Schedule through June 2010 as follows:

Tentative Date	Audit (A) Surveillance (S)	Organization/Activity	Joint Audit/ Surv.	Lead
TBD	S	DuBrook Concrete	Y	DTP
4/7 – 8/10	A	Truland Walker Seal JV	Y	DTP
4/14-15/10	A	<i>DTP QA, Document Control Training</i>	N	MWAA
4/21 –22/10	A	DTP Safety and Security	N	MWAA
4/22-23/10	A	<i>DTP Construction and QC</i>	N	MWAA
4/28 –29/10	A	DTP Engineering	Y	MWAA
4/29/10	A	<i>Marshall Miller Construction Safety</i>	N	MWAA
5/5-6/10	A	<i>Facchina Construction Safety Program</i>	Y	MWAA
5/12/10	S	DTP Subcontractor/Supplier Submittal Process: DTP Nonconformance Control System	N	MWAA
5/19 –20/10	A	Alstom Signaling	Y	DTP
5/26/10	S	DTP Subcontractor Construction Safety	N	MWAA
6/10/10	S	DuBrook Concrete	Y	MWAA
6/9-10/10	A	Rizzoni De Eccher Construction Safety Program	Y	MWAA
6/23 –24/10	A	Rizzani De Eccher	Y	DTP

3. Project Schedule

The most recent analyzed project schedule update has a data date of *February 25, 2010*. The primary critical path identified by DTP reflects a -70 calendar day variance in the achievement of the SSCD from that reflected in the approved Baseline Schedule. This variance reflects a deterioration of -20 calendar days since the previous schedule update. *DTP states in its schedule narrative that the primary drivers behind this schedule slippage are weather impacts from the record snow storms and impacts resulting from VDOT's extended reviews associated with the MOT plans for Tysons Boulevard to allow construction of Tysons 123 Station to commence.* The primary critical path, as identified by DTP as having remained unchanged from the previous month, involves Design-Build construction within the Tysons East corridor, specifically originating with the installation of substructure foundations (caissons for Wiehle Avenue Station) and moving to caisson installation at Tysons 123 Station. The path progresses from Tysons 123 Station aerial guideway substructure through fit-out of the Traction Power Sub Station and the Automatic Train Control rooms and systems testing. MWAA again does not agree with the critical paths presented by DTP as being reflective of the critical path of the Project. It is apparent that some of these delays can be attributable to weather. However, MWAA states that in most cases the slippage is greater than the number of days attributable to weather. In addition, it should be noted that the WFC Yard upgrade work has been disconnected from the overall schedule's critical path since the *February 25* forecast shows a WFCY

completion of April 2014 as compared to the January 23, 2014 forecast ROD. *MWAA will be meeting with DTP to discuss the disagreement on the schedule's critical path. MWAA anticipates that the discussion and agreement on the critical path will significantly lesson the 70 day loss currently shown on the schedule.*

Other problem areas with potential delays identified by MWAA include the following:

- Segmental girder changes for I-495 crossing/schedule conflict with HOT Lanes Project.
- Utility companies meeting the project schedule.
- Utility companies' redesign/relocation due to interference/conflicts with HOT Lanes Project.
- WMATA Art in Transit information has not been received for any of the stations.
- *Weather Delays.*

MWAA previously notified DTP that 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.

Bi-weekly meetings held between MWAA and DTP with regard to the schedule and schedule mitigation efforts *have yielded work-arounds and some increased shifts, particularly with regard to the late UR work and VDOT MOT and design package reviews.* It is the PMOC's opinion that MWAA is maintaining control over the Project master schedule. However, *the critical path, the weather delays and schedule logic issues are yet to be resolved. WMATA and VDOT's ability to provide timely design reviews continues to be a concern voiced by MWAA and DTP.*

It is also the PMOC's opinion that a 49 day loss in a 59 day period is illogical and that some portion of those losses must be reflective of DTP's failure to correct logic and critical path errors on the schedule. It is further the PMOC's opinion that recovery of the remaining portion of the reported schedule losses is well within the Project's ability via work-arounds and schedule adjustments. Therefore the Contract Completion Date is not considered to be in serious jeopardy at this time. *However, the longer disagreement on critical path, logic and delay issues continue, greater is the risk of irretrievable schedule creep leading to costly schedule compression or constructive acceleration.*

a. Critical Path Evaluation

The PMOC agrees with MWAA's assessment regarding the critical path and a greater effort needs to be put forth to resolve the critical path differences and schedule logic errors.

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(OP-2),
- Completion of the engineering for Tysons East Station (OP-4),
- Completion of the engineering for Tysons *Central 123 Station* (OP-5).
- Completion of the engineering for NATM Tunnel (OP-6),
- Completion of *utility relocation and* engineering for Tysons Central 7 Station (OP-7).
- Property acquisitions for the Tysons West Aerial Guideway (OP-8).
- Completion of the engineering for the Tysons West Station (OP-8).
- Award of the 7000 Series Rail Car contract.

4. Project Cost

The SCC Budget and Expenditures summary for the period ending *February 25, 2010* 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	\$ 632,368,211	\$ 64,202,913	\$ 632,368,211
20	Stations	\$ 317,023,977	\$ 319,954,419	\$ 15,208,419	\$ 319,954,419
30	West Falls Church Yard	\$ 51,789,538	\$ 52,011,360	\$ 2,415,613	\$ 52,037,880
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	\$ 229,264,753	\$ 71,825,413	\$ 222,882,048
50	Systems – FD	\$ 278,157,645	\$ 280,500,279	\$ 22,419,569	\$ 278,102,751
60	Right of Way Acquisition – FD	\$ 45,953,303	\$ 45,953,303	\$ 48,006,103	\$ 69,784,663
70	Vehicles – PE	\$ 526,000	\$ 526,000	\$ 526,000	\$ 526,000
70	Vehicles – FD	\$ 211,103,775	\$ 211,103,775	\$ 5,751,288	\$ 210,400,012
80	Professional Service – PE	\$ 170,881,000	\$ 170,902,413	\$ 170,902,413	\$ 70,902,413
80	Professional Service – FD	\$ 527,590,480	\$ 543,117,866	\$ 211,396,935	\$ 555,025,591
90	Contingency Mgmt. Reserve	\$ 130,000,075	\$ 146,760,685	\$ -	\$ 120,538,075
100	Finance Charge	\$ 509,984,571	\$ 509,984,571	\$ -	\$ 509,984,571
TOTAL (Federal portion)		\$ 3,142,471,634	\$ 3,142,471,634	\$ 612,678,666	\$ 3,142,471,634

1. Current budget equals FFGA amount plus approved Change Orders CO-001-042 and UR-CO-001-020; excludes CO-017

2. Preliminary Engineering Period (PE) – Prior to May 25, 2008

3. Final Design Period (FD) – May 25, 2008 through *February 25, 2010*

Overall, approximately 19% of the budget has been expended through *February 25, 2010*.

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.

Monthly Cost Report; February 2010					
DESCRIPTION	FFGA AMT. (Original)	EXPENDITURE TO DATE ¹	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION	
FEDERAL (FFGA SCOPE)					
Design-Build Contract					
Firm Fixed Price	\$ 1,112,052,172	\$ 278,668,398	\$ 1,068,375,222	\$ 1,347,043,620	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 55,290,315	\$ 9,856,686	\$ 65,147,002	
	Firm Fixed Price Subtotal	\$ 1,177,161,580	\$ 333,958,713	\$ 1,078,231,909	\$ 1,412,190,622
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 234,080,872	\$ 234,080,872	
	Design-Build Contract Prices	\$ 1,607,361,397	\$ 333,958,713	\$ 1,312,312,781	\$ 1,646,271,494
<i>Indexed Commodity Escalation</i>	\$ 77,469,926	\$ -	\$ 59,767,910	\$ 59,767,910	
	Design-Build Contract Total	\$ 1,684,831,324	\$ 333,958,713	\$ 1,372,080,691	\$ 1,706,039,404
Utility Relocation					
Utility Work	\$ 84,312,807	\$ 56,653,819	\$ 23,265,193	\$ 79,919,012	
Terf Tax		\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 12,974,648	\$ 1,202,036	\$ 14,176,684	
	Utility Relocation Total	\$ 92,736,233	\$ 69,628,467	\$ 24,467,230	\$ 94,095,696
Right of Way					
	Right of Way Total	\$ 42,443,132	\$ 48,006,103	\$ 21,778,560	\$ 69,784,663
WMATA Agreement					
Vehicles	\$ 195,138,329	\$ 6,277,288	\$ 188,157,279	\$ 194,434,567	
Construction and Procurement	\$ 31,484,799	\$ 1,632,468	\$ 27,434,556	\$ 29,067,024	
WMATA Force Account Startup	\$ 13,777,100	\$ 136,240	\$ 13,268,781	\$ 13,405,021	
Project Management and Final Design	\$ 31,235,400	\$ 6,533,915	\$ 28,195,103	\$ 34,729,017	
	WMATA Agreement Total	\$ 271,635,628	\$ 14,579,911	\$ 257,055,717	\$ 271,635,628
Preliminary Engineering²					
	Preliminary Engineering Total	\$ 100,968,646	\$ 93,650,225	\$ 7,318,422	\$ 100,968,646
Airports Authority Services					
General Conditions ³	\$ 28,879,153	\$ 2,853,717	\$ 24,015,967	\$ 26,869,684	
MWAA Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 10,052,597	\$ 13,243,120	\$ 23,295,717	
Project Management Support	\$ 90,004,649	\$ 39,948,933	\$ 53,628,651	\$ 93,577,583	
	Airports Authority Services Total	\$ 142,109,519	\$ 52,855,247	\$ 90,887,737	\$ 143,742,984
Contingency					
	Contingency Total	\$ 297,762,579	\$ -	\$ 246,220,040	\$ 246,220,040
Finance Costs					
	Finance Costs Total	\$ 509,984,571	\$ -	\$ 509,984,571	\$ 509,984,571
Total Federal (FFGA Scope)	\$ 3,142,471,634	\$ 612,678,666	\$ 2,529,792,968	\$ 3,142,471,634	
INTERRELATED HIGHWAY IMPROVEMENTS					
Design-Build Contract					
Firm Fixed Price - Engineering	\$ 5,929,082	\$ 3,125,287	\$ 24,314,611	\$ 27,439,897	
Firm Fixed Price Insurance and Bonds	\$ 2,889,450	\$ 2,411,616	\$ 594,452	\$ 3,006,068	
	Firm Fixed Price Subtotal	\$ 8,818,532	\$ 5,536,903	\$ 24,909,062	\$ 30,445,965
Subcontract Allowance	\$ 18,854,682	\$ -	\$ 18,854,682	\$ 18,854,682	
	Design-Build Contract Contract Total	\$ 27,673,214	\$ 5,536,903	\$ 43,763,744	\$ 49,300,647
Utility Relocation					
Utility Work	\$ 31,552,369	\$ 31,474,041	\$ 10,075,084	\$ 41,549,125	
Terf Tax		\$ -	\$ -	\$ -	
Project Management and Final Design	\$ 4,727,549	\$ 5,920,644	\$ 1,118,584	\$ 7,039,228	
	Utility Relocation Total	\$ 36,279,918	\$ 37,394,685	\$ 11,193,669	\$ 48,588,354
Right of Way					
	Right Of Way Total	\$ 44,772,663	\$ 13,400,480	\$ 3,865,355	\$ 17,265,835
Airports Authority Services					
General Conditions ³		\$ 1,288,565	\$ 126,692	\$ 1,415,256	
	Airports Authority Services Total	\$ -	\$ 1,288,565	\$ 126,692	\$ 1,415,256
Contingency					
	Contingency Total	\$ 14,482,435	\$ -	\$ 6,638,137	\$ 6,638,137
Total Interrelated Highway Improvements	\$ 123,208,229	\$ 57,620,633	\$ 65,587,596	\$ 123,208,229	
TOTAL PROJECT COST	\$ 3,265,679,863	\$ 670,299,299	\$ 2,595,380,564	\$ 3,265,679,863	
1 Reflects Costs through Feb 25, 2010					
2 Preliminary Engineering Period (PE) - Prior to August 1, 2007					
3 The line item marked General Conditions includes Temporary Facilities Development, Hazardous Material Remediation, Miscellaneous Access Roads and Wiehle Ave Garage					

b. Project Funding Sources: February 2010

SOURCES OF CAPITAL FUNDING	PERCENT AT COMPLETE	TOTAL	EXPENDED TO DATE ¹	PERCENT FUND SOURCE EXPENDED TO DATE	REMAINING
Sec 5309 New Starts Federal Funds					
PE Grant		\$ 54,412,526	\$ 54,412,526		\$ 0
Final Design Grant		\$ 159,001,838	\$ 159,001,838		\$ 0
ARRA		\$ 77,260,000	\$ 77,260,000		\$ 0
FFGA Balance		\$ 609,325,636	\$ 0		\$ 609,325,636
Subtotal - New Starts	28.64%	\$ 900,000,000	\$ 290,674,364	32.30%	\$ 609,325,636
Other Federal Funds					\$ 0
STP/Sec. 5307	2.39%	\$ 75,000,000	\$ 0	0.00%	\$ 75,000,000
Local Funds					
VTA 2000		\$ 51,700,000	\$ 51,700,000		\$ 0
Commonwealth Transportation Bonds ²		\$ 125,000,000	\$ 58,974,668		\$ 66,025,332
Fairfax County Funds ³		\$ 523,750,000	\$ 25,000,000		\$ 498,750,000
Dulles Toll Road Revenues ^{2,4}		\$ 1,467,021,634	\$ 168,329,634		\$ 1,280,692,000
Subtotal - Local Funds	68.97%	\$ 2,167,471,634	\$ 322,004,302	14.86%	\$ 1,845,467,332
Total Project Budget	100.00%	\$ 3,142,471,634	\$ 612,678,666		\$ 2,529,792,968
Interrelated Highway Activities		\$ 123,208,229	\$ 57,620,633		\$ 65,587,596
DTR Revenues/Commonwealth Funds³		\$ 123,208,229	\$ 57,620,633		\$ 65,587,596
TOTAL		\$ 3,265,679,863	\$ 670,299,299		\$ 2,595,380,564

¹ Reflects costs through February 2010

² Includes Tax District Revenues (\$400M) plus debt service costs allocated to Project Budget.

³ 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 *February 25, 2010*, MWAA had utilized \$62,466,521 (includes a \$6,066,771 return to the contingency due to a correction related to two Traction Power Substation draw downs) 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, the project has \$235,296,058 available. *The impact of the completion of station design on the cost contingency must be determined and remains an unknown.*

With regard to Schedule Contingency, the Project has utilized *seventy* calendar days of the total of 510 calendar days. The balance in schedule contingency is *440* 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 Cost Sched		Status (Change from Previous Month)
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 588-feet of excavation complete on the outbound tunnel and 345-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	Unchanged. 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	<i>Increased.</i> 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 <i>TBD</i> .
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 (Nov. 2009)	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 April 2010.	R
1	2B.01	Final Testing Plan for Re-used Piers (Feb. 2010)	MWAA approved the final testing plan (Rev 0) proposed by DTP for the Re-used Piers on March 30, 2010	Y	Y	N	<i>A tentative schedule for testing the 11 existing piers has been unofficially proposed to stake holders. The 1st test on Pier 7 IB is scheduled for April 13, 2010.</i>	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.

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
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
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: April 16, 2010 (reporting current through March, 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

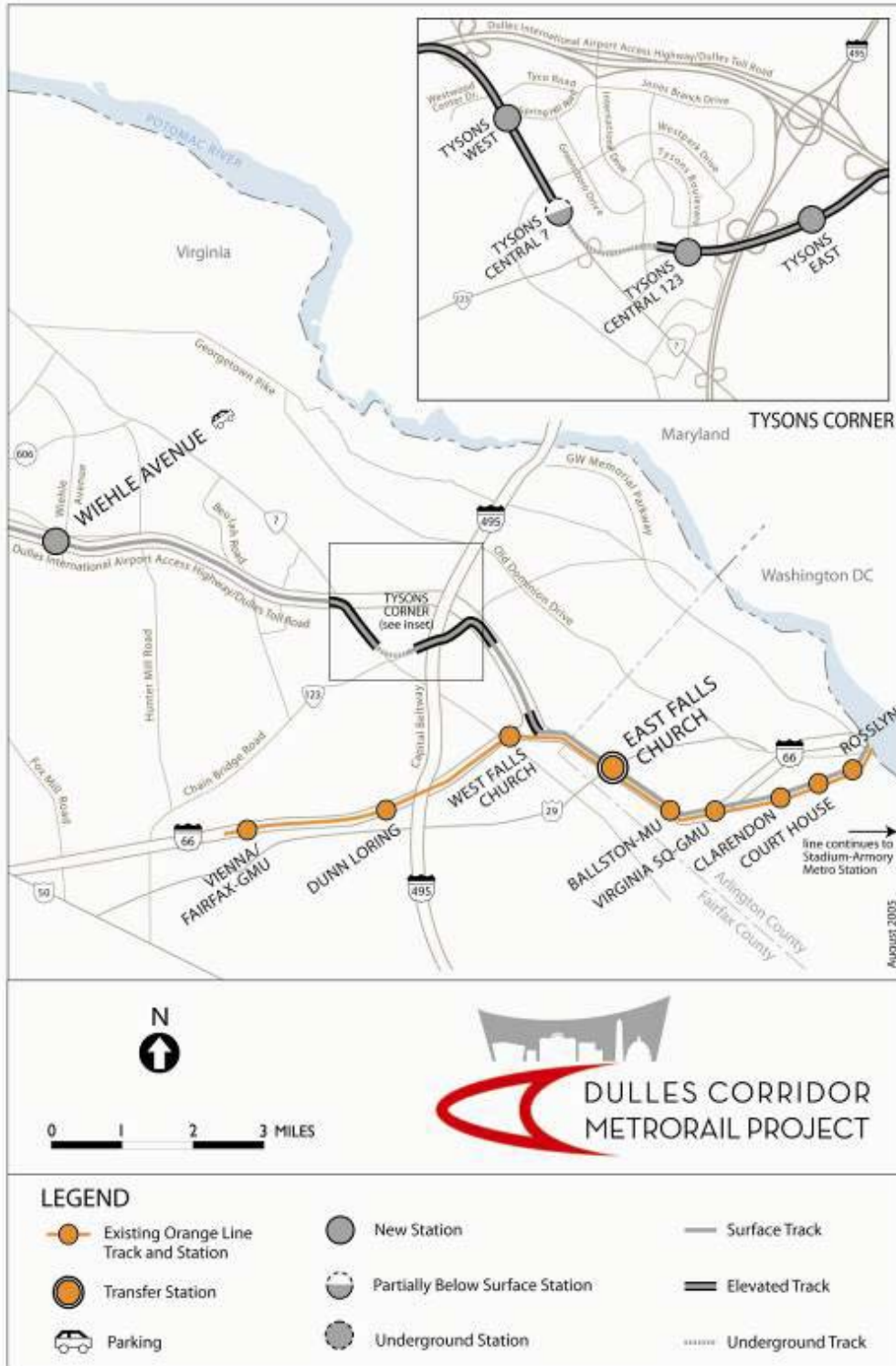
06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
1/23/14	Revenue Operations Date (ROD) at date of this report		
11.0%	Percent Complete Construction at date of this report		
18.5%	Percent Complete Time based on ROD of December 1, 2014 (based on FFGA)		
29.5%	MWAA's Estimate of Project Earned Value through February 2010		

Cost

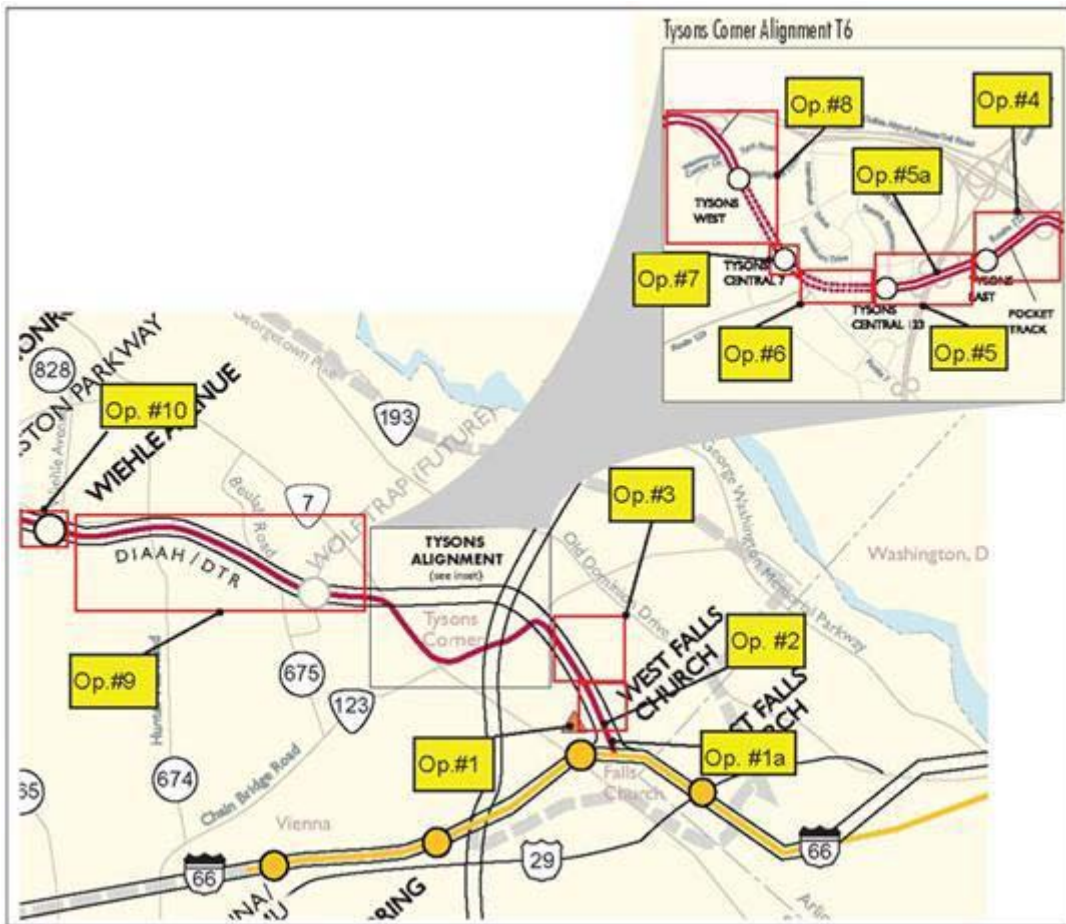
\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
\$ 612.7 million	Expenditures to date from total project budget of \$3.142 billion
19 %	Percent complete based on expenditures to date
\$246.2 million	Total project contingency remaining (allocated and unallocated)

Project Map

APPENDIX B – METRORAIL EXTENSION TO WIEHLE AVENUE



Operational Areas



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 sent the SSPP to TOC on November 13, 2009, and comments were sent back to WMATA. WMATA submitted a revised SSPP to TOC in March 2010 which is under review by TOC.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA sent the SEPP to TOC on November 12, 2009, and comments were sent back to WMATA. WMATA submitted a revised SEPP to TOC in March 2010 which is under review by TOC.
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 evaluate 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	N	

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?		
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 (Nov. 2009)	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 April 2010.	R
<i>1</i>	<i>2B.01</i>	<i>Final Testing Plan for Re-used Piers (March 2010)</i>	<i>MWAA approved the final testing plan proposed by DTPRev.0) for the Re-used Piers on March 30, 2010.</i>	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>The final testing plan (Rev.0) was approved by MWAA on March 30, 2010. First test on Pier 7 IB is scheduled for April 13, 2010</i>	<i>R</i>

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.