

TAB 1

Cost Reduction Package

- TAB 1A - Summary of Cost Reductions
- TAB 1B - Change Orders/Directives
- TAB 1C - Backup for Non-DTP Cost Reductions

TAB 1A
SUMMARY OF COST REDUCTIONS

**COST MITIGATION SUMMARY
PROJECT BUDGET COST SAVINGS**

Cost Item	Cost Item No. ¹	Cost Savings (millions)		Notes
		Sub-item	Total	
1. DB Contract Change Orders			(\$67.4)	
<i>Firm Fixed Price Change Orders</i>	1A	(\$10.0)		- FFP Change Order Executed
<i>Allowances Directed Change Order</i>	1B	(\$57.4)		- Allowances Directed Change Order Executed
2. WMATA-related costs			(\$31.1)	
<i>Rolling Stock Cost Allocation to Phase 2</i>	2	(\$29.0)		- WMATA has accepted the mitigations as mutually acceptable strategies as described in Mr. Catoe's letter to Mr. Bennett of September 6, 2007.
<i>Reduced maintenance equipment</i>		(\$2.0)		
3. MWAA-related costs			(\$29.6)	
<i>PMSS Contract Adjustment</i>	3A	(\$19.1)		- MWAA and PMSS have agreed to an overall Phase 1 budget including this reduction.
<i>Not Federal Project Eligible Improvements on DIAAH</i>	3B	(\$9.0)		- MWAA has committed funding for these improvements from outside the Project
<i>Deleted utility relocation work at WFC Yard</i>	3C	(\$1.5)		- Contract for utility relocation work at WFC yard not issued. Scope will reflect deletion.
4. Other Not Federal Project Eligible Costs			(\$90.4)	
<i>Route 7 Enhancements</i>	4	(\$89.2)		- Approved by FTA as Not Federal Project Eligible
<i>Spring Hill Road Improvements</i>		(\$1.2)		
5. Owner's contingency associated with above cost items	5		(\$23.9)	
Total			(\$242.3)	

¹Supporting documentation for each of these cost items is attached and categorized by Cost Item Number.

TAB 1B
CHANGE ORDERS/DIRECTIVES TO DTP

Cost Item 1A: \$10.0 Million Reduction

This item provides additional information in support of the cost mitigation initiatives related to scope changes defined in the Firm Fixed Price Contract Change Orders. Included are:

- Cost Mitigation Summary Status table with the highlighted cost mitigation values related to the Firm Fixed Price Contract Change Orders.
- Change Order CO-001, Prefabricated Traction Power Substations and Signal Houses.
- Change Order CO-002, Elimination of Provisions for Future Wolf Trap Station.
- Change Order CO-003, Use of LAN/WAN Communications System.
- Change Order CO-004, Use of Microprocessor-Based Train Control System.
- Change Order CO-005, Optimize Improvements to West Falls Church Maintenance and Storage Facilities.
- Change Order CO-006, Revisions to Station Design Levels.
- Change Order CO-007, Increase Minimum Train Headway.
- Change Order CO-009, Station Canopy Length Reduction.

These changes have been negotiated with DTP and have resulted in a \$10.0 million reduction in the firm fixed price component of the DB Contract.



COST MITIGATION STATUS SUMMARY



Item No.	DESCRIPTION	YOES X 1,000,000			YOES X 1,000,000			YOES X 1,000,000						NOTES		
		CURRENT BUDGET ESTIMATES			BUDGET - FFP vs. ALLOWANCES			CONFIRMED CHANGES								
		Not Federal Project Eligible	Technology/Ops Change	VE/Scope	FFP per PMOC (with Contingency)	Allowance/Other per PMOC (with Contingency)	Total (with Contingency)	FFP			Owner-Agency				Total	
								Negotiated Scope Change	Not Federal Project Eligible per PMOC	Owner's Contingency	Scope Change	Not Federal Project Eligible	Owner-Agency Cost per PMOC			Owner's Contingency
1.1	Optimize Improvements in West Falls Church Yard			\$ (27.9)	\$ (3.5)	\$ (24.4)	\$ (27.9)	\$ 0.5		\$ 0.1	\$ (20.0)		\$ (1.5)	\$ (2.9)	\$ (23.8)	FFP and Allowance Change Order Executed. Owner Agency savings are T&M work for deleted scope.
1.2	Route 7 Enhancements	\$ (99.0)			\$ (4.2)	\$ (94.7)	\$ (99.0)		\$ (3.7)	\$ (0.5)		\$ (11.7)	\$ (73.8)	\$ (9.3)	\$ (99.0)	Approved by FTA as Not Federal Project Eligible
1.3	Spring Hill Road Improvements	\$ (1.4)			\$ (0.2)	\$ (1.2)	\$ (1.4)	\$ (0.1)	\$ (0.0)		\$ (0.5)	\$ (0.6)	\$ (0.1)	\$ (1.4)	\$ (1.4)	
1.4	Wiehle Avenue Garage built by Developer	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -	\$ -	No credit to be taken until Fairfax County reaches agreement with Developer.
1.5	Wiehle Avenue Bus Bays			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -	\$ -	Remains in Project Scope.
1.6	Increase Min ATC design Headway & reduce Traction Power Requirements		\$ (13.0)		\$ (2.0)	\$ (11.0)	\$ (13.0)	\$ (2.0)	\$ (0.3)	\$ (9.6)				\$ (1.4)	\$ (13.3)	FFP and Allowance Change Order Executed.
1.7a	Use prefabricated Traction power Substations		\$ (8.4)		\$ (3.0)	\$ (5.4)	\$ (8.4)	\$ (3.6)	\$ (0.5)	\$ (4.7)				\$ (0.7)	\$ (9.4)	FFP and Allowance Change Order Executed.
1.7b	Use prefabricated Prewired signal houses		In 1.7a		In 1.7a		In 1.7a		In 1.7a							
1.8	Use Microprocessor based ATC system design instead of present Relay Logic and discrete wiring		\$ (2.5)		\$ (0.2)	\$ (2.3)	\$ (2.5)	\$ (0.2)	\$ (0.0)	\$ (2.0)				\$ (0.3)	\$ (2.5)	FFP and Allowance Change Order Executed.
1.9	Use LAN/WAN TCP/IP communications system instead of present DTS technologies.		\$ -		\$ -	\$ -	\$ -	\$ 0.3	\$ 0.0	\$ -				\$ (0.0)	\$ 0.4	FFP and Allowance Change Order Executed.
1.10	Separate non-ATC communication systems from the ATC system		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -	\$ -	FFP and Allowance Change Order Executed.
1.11	Eliminate provisions for the future station at Wolf Trap			\$ (4.7)	\$ (4.7)	\$ -	\$ (4.7)	\$ (6.0)	\$ (0.9)	\$ -				\$ -	\$ (6.9)	FFP Change Order Executed.
1.12	Non-Recurring Rolling Stock Cost Allocation & Phasing		\$ (31.3)		\$ -	\$ (31.3)	\$ (31.3)						\$ (29.0)	\$ (2.2)	\$ (31.3)	WMATA has accepted the mitigations as mutually acceptable strategies as described in Mr. Catoe's letter to Mr. Bennett of September 6, 2007.
1.13	Reduce the number of maintenance vehicles and equipment			\$ (2.1)	\$ -	\$ (2.1)	\$ (2.1)						\$ (2.0)	\$ (0.1)	\$ (2.1)	
1.14	Use existing parking lots during construction of the Wiehle Avenue garage rather than building additional spaces.			\$ (2.0)	\$ (0.3)	\$ (1.7)	\$ (2.0)	\$ -	\$ -	\$ (1.6)				\$ (0.2)	\$ (1.8)	Allowance Change Order Executed.
1.15	Realignment to accommodate future 3rd lane widening	\$ (5.0)			\$ (1.2)	\$ (3.8)	\$ (5.0)	\$ (1.1)	\$ (0.2)		\$ (3.3)			\$ (0.5)	\$ (5.0)	MWAA has committed funding for these improvements from outside the Project
1.16	Implementation of revisions to stations			\$ (18.1)	\$ (3.1)	\$ (15.0)	\$ (18.1)	\$ 1.4	\$ 0.2	\$ (13.1)				\$ (1.9)	\$ (13.4)	FFP and Allowance Change Order Executed.
1.17	Platform Canopy length adjustment			\$ (8.5)	\$ (1.2)	\$ (7.3)	\$ (8.5)	\$ (0.4)	\$ (0.1)	\$ (6.4)				\$ (0.9)	\$ (7.7)	FFP and Allowance Change Order Executed.
1.18	Emergency Crossovers on the DIAAH	\$ (5.3)			\$ (1.3)	\$ (4.0)	\$ (5.3)	\$ (1.1)	\$ (0.2)		\$ (3.5)			\$ (0.5)	\$ (5.3)	MWAA has committed funding for these improvements from outside the Project
1.19	PMSS Contract adjustment			\$ (19.6)	\$ -	\$ (19.6)	\$ (19.6)						\$ (19.1)	\$ (0.6)	\$ (19.6)	MWAA and PMSS have agreed to an overall Phase 1 budget including this reduction.
TOTALS		\$ (141.9)	\$ (23.9)	\$ (82.9)	\$ (24.9)	\$ (223.7)	\$ (242.3)	\$ (10.0)	\$ (6.0)	\$ (2.4)	\$ (57.4)	\$ (19.0)	\$ (126.1)	\$ (21.5)	\$ (242.3)	
GRAND TOTAL				\$ (248.6)		\$ (248.6)	\$ (248.6)			\$ (18.4)				\$ (224.0)	\$ (242.3)	

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**



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Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660	1A. MODIFICATION OF CONTRACT / ORDER NO. 8-07-C004		1B. AWARD DATE June 19, 2007													
	2A. MODIFICATION NO. One (001)		2B. EFFECTIVE DATE December 21, 2007													
			3. PROCUREMENT REQUEST NO. 08-030-018													
4. TYPE OF MODIFICATION <input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)			5. NAME, ADDRESS AND PHONE NO. OF CONTRACTOR Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228													
6. IMPORTANT: CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.			7. ACCOUNTING DATA MF 7330 013 1981 5101 8000 = (\$ 289,564.72) deduct from FFP MF 7330 013 1982 5101 8000 = (\$ 3,276,713.28) deduct from FFP													
8. DESCRIPTION OF MODIFICATION Prefabricated Modular Traction Power Design – Change the Work as described in the Design Build Contract to incorporate the design, fabrication, installation and testing of Prefabricated Modular Traction Power components. The scope of Work for this Change is as described in DTP’s Request for Change Proposal (RFC-001, Rev. 1) dated December 7, 2007, transmitted under cover of DTP letter, 25235-000-T07-GAMM-00011. The change in Work includes: <ul style="list-style-type: none"> • No change to TPSS station ratings, • The utilization of modular, prefabricated Traction Power Substation (TPSS) units and enclosures, • The use of prefabricated Tie Breaker Station (TBS) units and enclosures, • Architectural treatment for all TPSS and TBS that are located remotely from passenger stations, and • Factory testing and witnessing prior to shipment to project site. <table border="1" style="width:100%; margin-top:10px;"> <tr> <td>Design-Build Firm Fixed Price:</td> <td>\$1,075,074,591</td> <td>D-B Contract Price</td> <td>\$1,598,785,938</td> </tr> <tr> <td>Design-Build Contract Price Adjustment</td> <td>(\$3,566,278)</td> <td>D-B Contract Adjustment</td> <td>(\$3,566,278)</td> </tr> <tr> <td>Total Design-Build Firm Fixed Price:</td> <td>\$1,071,508,313</td> <td>Total D-B Contract</td> <td>\$1,595,219,660</td> </tr> </table>					Design-Build Firm Fixed Price:	\$1,075,074,591	D-B Contract Price	\$1,598,785,938	Design-Build Contract Price Adjustment	(\$3,566,278)	D-B Contract Adjustment	(\$3,566,278)	Total Design-Build Firm Fixed Price:	\$1,071,508,313	Total D-B Contract	\$1,595,219,660
Design-Build Firm Fixed Price:	\$1,075,074,591	D-B Contract Price	\$1,598,785,938													
Design-Build Contract Price Adjustment	(\$3,566,278)	D-B Contract Adjustment	(\$3,566,278)													
Total Design-Build Firm Fixed Price:	\$1,071,508,313	Total D-B Contract	\$1,595,219,660													
This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents. This Change Order 1 is based on Change Order 010, which describes the related revisions to the Allowance Items. This issue has been tracked and managed as PCO-054 by PMSS. Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.																
9A. NAME AND TITLE OF CONTRACTOR George B. Morschauer, Project Executive Director			10A. NAME OF CONTRACTING OFFICER Eric R. Carey													
9B. SIGNATURE 		9C. DATE 1/28/08	10B. SIGNATURE 	10C. DATE 1/28/08												
11. PROPERTY INFORMATION <input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY																

**Metropolitan Washington Airports Authority
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Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660		1A: MODIFICATION OF CONTRACT / ORDER NO. 8-07-C004		1B: AWARD DATE June 19, 2007													
		2A: MODIFICATION NO. Two (002)		2B: EFFECTIVE DATE December 21, 2007													
				3: PROCUREMENT REQUEST NO. 08-030-019													
4: TYPE OF MODIFICATION <input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)			6: NAME, ADDRESS AND PHONE NO. OF CONTRACTOR Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228														
5: IMPORTANT CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.			7: ACCOUNTING DATA MF 7330 013 1981 5101 8000 = (\$ 54,802.94) deduct from FFP MF 7330 013 1982 5101 8000 = (\$ 5,932,298.06) deduct from FFP														
8: DESCRIPTION OF MODIFICATION Eliminate Provision for Future Wolf Trap Station – Change the Work as defined in the Design Build Contract to eliminate the design and installation of facilities to support the potential for a future station at Wolf Trap. The scope of Work for this change is as described in DTP's Request for Change Proposal (RFC-002, Rev. 1) dated December 7, 2007 transmitted under cover of DTP letter, 25235-000-T07-GAMM-00012. The change in Work includes: <ul style="list-style-type: none"> • Change in the vertical track alignment from Station 860+15 to 877+00 • Elimination of the Emergency Vehicle Crossover at Station 869+00 Contract Price Adjustment: <table border="1"> <tr> <td>Design-Build Firm Fixed Price (thru Change Order #1):</td> <td>\$1,071,508,313</td> <td>D-B Contract Price (thru Change Order #1):</td> <td>\$1,595,219,660</td> </tr> <tr> <td>Design-Build Contract Price Adjustment</td> <td>(\$5,987,100)</td> <td>D-B Contract Adjustment</td> <td>(\$5,987,100)</td> </tr> <tr> <td>Total Design-Build Firm Fixed Price:</td> <td>\$1,065,521,213</td> <td>Total D-B Contract</td> <td>\$1,589,232,560</td> </tr> </table> <p>This Change Order shall be in full accord and satisfaction of all costs arising out of or related to this change, and the Parties agree that there shall be no adjustment to the Scheduled Substantial Completion Date arising out of or related to this change.</p> <p>This issue has been tracked and managed as PCO-012 by PMSS.</p> <p>Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.</p>						Design-Build Firm Fixed Price (thru Change Order #1):	\$1,071,508,313	D-B Contract Price (thru Change Order #1):	\$1,595,219,660	Design-Build Contract Price Adjustment	(\$5,987,100)	D-B Contract Adjustment	(\$5,987,100)	Total Design-Build Firm Fixed Price:	\$1,065,521,213	Total D-B Contract	\$1,589,232,560
Design-Build Firm Fixed Price (thru Change Order #1):	\$1,071,508,313	D-B Contract Price (thru Change Order #1):	\$1,595,219,660														
Design-Build Contract Price Adjustment	(\$5,987,100)	D-B Contract Adjustment	(\$5,987,100)														
Total Design-Build Firm Fixed Price:	\$1,065,521,213	Total D-B Contract	\$1,589,232,560														
9A: NAME AND TITLE OF CONTRACTOR George B. Morschauer, Project Executive Director			10A: NAME OF CONTRACTING OFFICER Eric R. Carey														
9B: SIGNATURE 		9C: DATE 1/28/08		10B: SIGNATURE 													
				10C: DATE 1/28/08													
11: PROPERTY INFORMATION <input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY																	

**Metropolitan Washington Airports Authority
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Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660	1A: MODIFICATION OF CONTRACT / ORDER NO.		1B: AWARD DATE	
	8-07-C004		June 19, 2007	
	2A: MODIFICATION NO.	2B: EFFECTIVE DATE	3: PROCUREMENT REQUEST NO.	
	Three (003)	December 21, 2007	08-030-020	

4: TYPE OF MODIFICATION		6: NAME, ADDRESS AND PHONE NO. OF CONTRACTOR	
<input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)		Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228	

5: IMPORTANT		7: ACCOUNTING DATA	
CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.		MF 7330 013 1981 5101 8000 = 270,563.15 ADD TO FFP MF 7330 013 1982 5101 8000 = 35,500.85 ADD TO FFP	

8: DESCRIPTION OF MODIFICATION:

Use LAN/WAN Technology – Change the Work as defined in the Design Build Contract to incorporate the design, fabrication, installation and testing of LAN and WAN technology. The scope of Work for this change is as described in DTP's Request for Change Proposal (RFC-003, Rev. 1) dated December 7, 2007 transmitted under cover of DTP letter, 25235-000-T07-GAMM-00013.

The change in Work includes:

- Providing an Ethernet-based LAN/WAN system for all communications between and within each project location.
- Providing an Ethernet-based LAN/WAN system for all communications between and within each project locations and the existing system including the Operating Control Center (OCC),
- The development of the configuration and functionality of the Ethernet-based LAN/WAN communications system in coordination with ongoing communications system updates being implemented by WMATA.
- Removal of all non-ATC communications sub-systems from the train control system and transfer them to the LAN/WAN communications system required above. Provide all communications interface and adapter hardware as necessary.
- Removal of the telephone system utilizing PBX equipment from the project design requirements and replace it with the requirements that all audio communications equipment shall utilize Voice Over IP (VOIP) Technology. The VOIP telephones shall utilize the LAN/WAN system described above.

Contract Price Adjustment:

Design-Build Firm Fixed Price (thru Change Order #2):	\$1,065,521,213	D-B Contract Price (thru Change Order #2):	\$1,589,232,560
Design-Build Contract Price Adjustment	\$306,063	D-B Contract Adjustment	\$306,063
Total Design-Build Firm Fixed Price:	\$1,065,827,276	Total D-B Contract	\$1,589,538,623

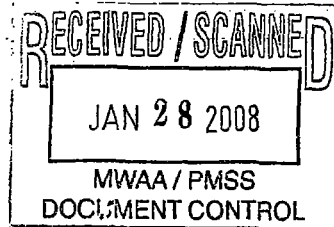
This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.

This Change Order 003 is based on Change Order 010, which describes the related revisions to the Allowance Items.

Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.

9A: NAME AND TITLE OF CONTRACTOR		10A: NAME OF CONTRACTING OFFICER	
George B. Morschauer, Project Executive Director		Eric R. Carey	
9B: SIGNATURE	9C: DATE	10B: SIGNATURE	10C: DATE
	1/28/08		1/28/08
11: PROPERTY INFORMATION			
<input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY			

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**



Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660	1A: MODIFICATION OR CONTRACT / ORDER NO.	1B: AWARD DATE	
	8-07-C004	June 19, 2007	
	2A: MODIFICATION NO.	2B: EFFECTIVE DATE	3: PROCUREMENT REQUEST NO.
	Four (004)	December 21, 2007	08-030-021

4: TYPE OF MODIFICATION	5: NAME, ADDRESS AND PHONE NO. OF CONTRACTOR
<input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)	Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228

6: IMPORTANT	7: ACCOUNTING DATA
CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.	MF 7330 013 1981 5101 8000 = \$ 207,672.13 ADD TO FFP MF 7330 013 1982 5101 8000 = (\$407,357.13) DEDUCT FROM FFP

8: DESCRIPTION OF MODIFICATION

Microprocessor Based Automatic Train Control – Change the Work as defined in the Design Build Contract to incorporate the design, fabrication, installation and testing of Microprocessor Based Automatic Train Control. The Scope of Work for this change is as described in DTP's Request for Change Proposal (RFC-004, Rev 1) dated December 7, 2007 transmitted under cover of DTP letter, 25235-000-T07-GAMM-00014. The change in Work includes:

- Within ATC industry safe practices, revise the design of the ATC from the current relay based system to a microprocessor-based design.
- Increase ATC design headway from 90 seconds to 135 seconds.
- Utilize modular, prefabricated ATC units and enclosures.
- Conduct factory testing of prefabricated modular units prior to delivery to the Project site.

Contract Price Adjustment:

Design-Build Firm Fixed Price (thru Change Order #3):	\$1,065,827,276	D-B Contract Price (thru Change Order #3):	\$1,589,538,623
Design-Build Contract Price Adjustment	(\$199,686)	D-B Contract Adjustment	(\$199,686)
Total Design-Build Firm Fixed Price:	\$1,065,627,590	Total D-B Contract	\$1,589,338,937

This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated into the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.

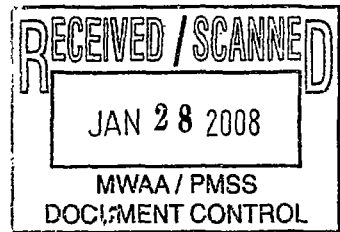
This Change Order 004 is based on Change Order 010, which describes the related revisions to the Allowance Items.
This issue has been tracked and managed as PCO-055 by PMSS.

Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.

9A: NAME AND TITLE OF CONTRACTOR		10A: NAME OF CONTRACTING OFFICER	
George B. Morschauser, Project Executive Director		Eric R. Carey	
9B: SIGNATURE	9C: DATE	10B: SIGNATURE	10C: DATE
	1/28/08		1/28/08

11: PROPERTY INFORMATION
 CAPITALIZED ASSET CONTROLLED ASSET REAL PROPERTY

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**



PAGE 1

Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660		1A. MODIFICATION OF CONTRACT / ORDER NO. 8-07-C004	1B. AWARD DATE June 19, 2007
		2A. MODIFICATION NO. Five (005)	2B. EFFECTIVE DATE December 21, 2007
		3. PROCUREMENT REQUEST NO. 08-030-022	
4. TYPE OF MODIFICATION [X] THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. [] CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. [] THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. [] OTHER (Please Specify)		6. NAME, ADDRESS AND PHONE NO. OF CONTRACTOR Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228	
5. IMPORTANT CONTRACTOR [] IS NOT [X] IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.		7. ACCOUNTING DATA MF 7330 013 1981 5101 8000 = \$ 333,932.97 ADD TO FFP MF 7330 013 1982 5101 8000 = \$ 186,685.03 ADD TO FFP	
8. DESCRIPTION OF MODIFICATION Revision to West Falls Church Yard and Shop – Change the Work as defined in the Design Build Contract to incorporate the design, fabrication, installation and testing of the structures, equipment and other facilities relative to the West Falls Church Yard and Shop. The Scope of Work for this change is as described in DTP’s Request for Change Proposal (RFC-006, Rev 1) dated December 17, 2007, transmitted under cover of DTP letter, 25235-000-T07-GAMM-00026. This change in Work has evolved over a period of time. This Change includes: <ul style="list-style-type: none"> • Implement changes to storage track layout in accordance with referenced correspondence, • Deleting modifications to the existing S&I building, • Construction of a new pre-engineered shop annex building in the area inside the existing loop track, • TPSS Number 1 relocated to an area outside the yard and the deletion of Tie Breaker station at Plainfield St., • Other scope modifications in accordance with the referenced correspondence. 			
Contract Price Adjustment:			
Design-Build Firm Fixed Price (thru Change Order #4):	\$1,065,627,590	D-B Contract Price (thru Change Order #4):	\$1,589,338,937
Design-Build Contract Price Adjustment	\$520,618	D-B Contract Adjustment	\$520,618
Total Design-Build Firm Fixed Price:	\$1,066,148,208	Total D-B Contract	\$1,589,859,555
This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.			
This Change Order 005 is based on Change Order 010, which describes the related revisions to the Allowance Items. This issue has been tracked and managed as PCO-006 by PMSS.			
Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.			
9A. NAME AND TITLE OF CONTRACTOR George B. Morschauer, Project Executive Director		10A. NAME OF CONTRACTING OFFICER Eric R. Carey	
9B. SIGNATURE 	9C. DATE 1/28/08	10B. SIGNATURE 	10C. DATE 1/28/08
11. PROPERTY INFORMATION [] CAPITALIZED ASSET [] CONTROLLED ASSET [] REAL PROPERTY			

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**

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PAGE 1
DOCUMENT CONTROL

Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660	1A: MODIFICATION OF CONTRACT / ORDER NO.	1B: AWARD DATE	
	2A: MODIFICATION NO.	2B: EFFECTIVE DATE	3: PROCUREMENT REQUEST NO.
	8-07-C004	June 19, 2007	
	Six (006)	December 21, 2007	08-030-25

4: TYPE OF MODIFICATION:	5: NAME, ADDRESS AND PHONE NO. OF CONTRACTOR
<input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)	Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228

5: IMPORTANT:	7: ACCOUNTING DATA
CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.	MF 7330 013 1981 5101 8000 = \$ 1,307,353.43 ADD TO FFP MF 7330 013 1982 5101 8000 = \$ 74,155.57 ADD TO FFP

8: DESCRIPTION OF MODIFICATION:

Passenger Station Features Revisions – Change the Work as defined in the Design Build Contract to incorporate the design, fabrication, installation and testing of the structures, equipment and other facilities relative to the Passenger Stations. The Scope of Work for this change is as described in DTP's Request for Change Proposal RFC-007, Rev 2, dated December 21, 2007, transmitted under cover of DTP letter, 25235-000-T07-GAMM-00066. This change in Work has evolved over a period of time. This Change includes:

- Revising the use of currently selected cladding elements,
- Replacement of current brick/block walls with a textured precast system or integral thin set brick verneer,
- Refinement of Canopy Shapes,
- Refinement of Pedestrian Bridge design details,
- Revisions to roofing systems
- Revisions to floor finishes (other than on platforms)
- Revisions to decorative lighting.

Contract Price Adjustment:

Design-Build Firm Fixed Price (thru Change Order #5):	\$1,066,148,208	D-B Contract Price (thru Change Order #5):	\$1,589,859,555
Design-Build Contract Price Adjustment	\$1,381,509	D-B Contract Adjustment	\$1,381,509
Total Design-Build Firm Fixed Price:	\$1,067,529,717	Total D-B Contract	\$1,591,241,064

This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.

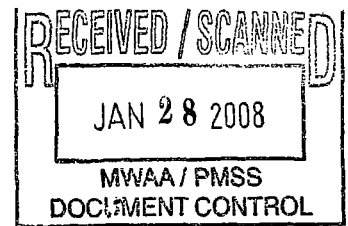
This Change Order 006 is based on Change Order 010, which describes the related revisions to the Allowance Items. This issue has been tracked and managed as PCO-006 by PMSS.

Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.

9A: NAME AND TITLE OF CONTRACTOR		10A: NAME OF CONTRACTING OFFICER	
George B. Morschauer, Project Executive Director		Eric R. Carey	
9B: SIGNATURE	9C: DATE	10B: SIGNATURE	10C: DATE
	1/28/08		1/28/08

11: PROPERTY INFORMATION
 CAPITALIZED ASSET CONTROLLED ASSET REAL PROPERTY

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**

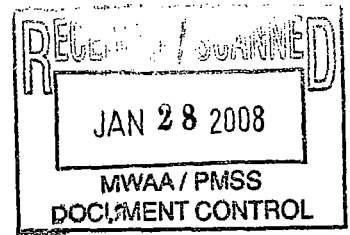


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Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660		1A. MODIFICATION OF CONTRACT / ORDER NO. 8-07-C004		1B. AWARD DATE June 19, 2007													
		2A. MODIFICATION NO. Seven (007)		2B. EFFECTIVE DATE December 21, 2007													
				3. PROCUREMENT REQUEST NO. 08-030-023													
4. TYPE OF MODIFICATION: <input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)			6. NAME, ADDRESS AND PHONE NO. OF CONTRACTOR Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228														
5. IMPORTANT: CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.			7. ACCOUNTING DATA MF 7330 013 1981 5101 8000 = \$ 28,309.17 ADD TO FFP MF 7330 013 1982 5101 8000 = (\$ 2,038,103.17) DEDUCT FROM FFP														
8. DESCRIPTION OF MODIFICATION: Traction Power Design Change – Change the Work as defined in the Design Build Contract to incorporate the changes to the Traction Power Design. The Scope of Work for this change is as described in DTP’s Request for Change Proposal RFC-009 Rev 1 dated December 20, 2007, transmitted under cover of DTP letter, 25235-000-T07-GAMM-00059. This change in Work includes: <ul style="list-style-type: none"> • Elimination of TPSS # 7, • Reconfiguration of TPSS #s 2,3,4,5 and 10 to be 6MW, • Include provisions to enable all TPSS to be readily expanded to 9MW at a future date without disrupting train operations, • Confirm that the proposed TPSS will be in compliance with applicable WMATA Design Criteria, • Include 135 second minimum headway and compliance with NEMA RI-9 overload ratings for “extra-heavy traction” equipment as part of the above criteria. Contract Price Adjustment: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Design-Build Firm Fixed Price (thru Change Order #6):</td> <td align="right">\$1,067,529,717</td> <td>D-B Contract Price (thru Change Order #6):</td> <td align="right">\$1,591,241,064</td> </tr> <tr> <td>Design-Build Contract Price Adjustment</td> <td align="right">(\$2,009,795)</td> <td>D-B Contract Adjustment</td> <td align="right">(\$2,009,795)</td> </tr> <tr> <td>Total Design-Build Firm Fixed Price:</td> <td align="right">\$1,065,519,922</td> <td>Total D-B Contract</td> <td align="right">\$1,589,231,269</td> </tr> </table>						Design-Build Firm Fixed Price (thru Change Order #6):	\$1,067,529,717	D-B Contract Price (thru Change Order #6):	\$1,591,241,064	Design-Build Contract Price Adjustment	(\$2,009,795)	D-B Contract Adjustment	(\$2,009,795)	Total Design-Build Firm Fixed Price:	\$1,065,519,922	Total D-B Contract	\$1,589,231,269
Design-Build Firm Fixed Price (thru Change Order #6):	\$1,067,529,717	D-B Contract Price (thru Change Order #6):	\$1,591,241,064														
Design-Build Contract Price Adjustment	(\$2,009,795)	D-B Contract Adjustment	(\$2,009,795)														
Total Design-Build Firm Fixed Price:	\$1,065,519,922	Total D-B Contract	\$1,589,231,269														
<p>This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.</p> <p>This Change Order 007 is based on Change Order 010, which describes the related revisions to the Allowance Items. This issue has been tracked and managed as PCO-053 by PMSS.</p> <p>Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.</p>																	
9A. NAME AND TITLE OF CONTRACTOR George B. Morschauer, Project Executive Director			10A. NAME OF CONTRACTING OFFICER Eric R. Carey														
9B. SIGNATURE 		9C. DATE 1/28/08	10B. SIGNATURE 		10C. DATE 1/28/08												
11. PROPERTY INFORMATION <input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY																	

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**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**



Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660		1A. MODIFICATION OF CONTRACT ORDER NO. 8-07-C004	1B. AWARD DATE June 19, 2007
		2A. MODIFICATION NO. Nine (009)	2B. EFFECTIVE DATE January 22, 2008
		3. PROCUREMENT REQUEST NO. 08-030-	
4. TYPE OF MODIFICATION <input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)		NAME, ADDRESS AND PHONE NO. OF CONTRACTOR Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228	
IMPORTANT CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.		ACCOUNTING DATA MF 7330 013 1982 5101 8000 = (\$ 415,527.00) DEDUCT FROM FFP	
5. DESCRIPTION OF MODIFICATION Reduction To Station Canopies – Change the Work as defined in the Design Build Contract to incorporate the reduction of the FFP design and installation of the structures, equipment and other facilities relative to the Station Canopies. The Scope of Work for this change is as described in DTP's Request for Change Proposal RFC-007a, dated January 16, 2008, transmitted under cover of DTP letter 25235-000-T08-GAMM-00049. This change in Work includes: <ul style="list-style-type: none"> • Revise the existing, in progress, 60% final design submission drawings and revert to the 100% PE design, • Architectural designs currently indicating 600 foot long canopies will be revised to 300 foot length, • Structural designs will be advanced per the original FFP scope to facilitate possible future extension to 600', 			
Contract Price Adjustment:			
Design-Build Firm Fixed Price (thru Change Order #8):	\$1,064,400,649	D-B Contract Price (thru Change Order #8):	\$1,588,111,996
Design-Build Contract Price Adjustment	(\$415,527)	D-B Contract Adjustment	(\$415,527)
Total Design-Build Firm Fixed Price:	\$1,063,985,122	Total D-B Contract	\$1,587,696,469
<p>This Change Order shall be in full accord and satisfaction of all costs arising out of or related to this change, and the Parties agree that there shall be no adjustment to the Scheduled Substantial Completion Date arising out of or related to this change.</p> <p>This Change Order 9 is based on Change Order 10, which describes the related revisions to the Allowance Item.</p> <p>This issue has been tracked and managed as PCO-060 by PMSS.</p> <p>Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.</p>			
9A. NAME AND TITLE OF CONTRACTOR George B. Morschauer, Project Executive Director		10A. NAME OF CONTRACTING OFFICER Eric R. Carey	
9B. SIGNATURE 	9C. DATE 1/28/08	10B. SIGNATURE 	10C. DATE 1/28/08
11. PROPERTY INFORMATION <input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY			

Cost Item 1B: \$57.4 Million Reduction

This item provides additional information in support of the cost mitigation initiatives related to the Allowance Directed Change Orders. Included are:

- Cost Mitigation Summary Status table with the highlighted cost mitigation values related to the Allowance Directed Change Orders.
- Change Order CO-010, Contract Allowance Items.
- Table based on DB Contract Exhibit 14.1.1, Modifications to Allowance Values.
- Table 4, PMOC Recommended Adjustments to Budget for Allowance Items.

The Allowances in the Contract are budget amounts for work that DTP intends to competitively solicit for and assign to subcontractors. Exhibit 14.1.1 and Table 4 shows the budgets included in the June 2007 Contract (\$463.8 million) and the adjusted values recommended by the PMOC (\$513.3 million) as part of its August 20, 2007 Cost Report. These latter values were included in the Project budget from which the cost mitigation reductions were taken to establish the revised budget used for the Request to Enter Final Design.

The changes to the Project budget allowances resulting from the directed changes that correspond to the Firm Fixed Price Contract Change Orders total \$57.4 million. The net change to the DTP DB Contract of \$7.9 million is the combined result of:

- Increasing the value of the allowance in accordance with the FTA's recommendations in August 2007 (+\$49.5 million) and
- Implementing the cost mitigation measures for allowances (-\$57.4 million).

COST MITIGATION STATUS SUMMARY

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Item No.	DESCRIPTION	YOES X 1,000,000			YOES X 1,000,000			YOES X 1,000,000						NOTES		
		CURRENT BUDGET ESTIMATES			BUDGET - FFP vs. ALLOWANCES			CONFIRMED CHANGES								
		Not Federal Project Eligible	Technology/Ops Change	VE/Scope	FFP per PMOC (with Contingency)	Allowance/Other per PMOC (with Contingency)	Total (with Contingency)	FFP			Allowance per PMOC				Total	
								Negotiated Scope Change	Not Federal Project Eligible per PMOC	Owner's Contingency	Scope Change	Not Federal Project Eligible	Owner-Agency Cost per PMOC			Owner's Contingency
1.1	Optimize Improvements in West Falls Church Yard			\$ (27.9)	\$ (3.5)	\$ (24.4)	\$ (27.9)	\$ 0.5		\$ 0.1	\$ (20.0)		\$ (1.5)	\$ (2.9)	\$ (23.8)	FFP and Allowance Change Order Executed. Owner Agency savings are T&M work for deleted scope.
1.2	Route 7 Enhancements	\$ (99.0)			\$ (4.2)	\$ (94.7)	\$ (99.0)		\$ (3.7)	\$ (0.5)		\$ (11.7)	\$ (73.8)	\$ (9.3)	\$ (99.0)	Approved by FTA as Not Federal Project Eligible
1.3	Spring Hill Road Improvements	\$ (1.4)			\$ (0.2)	\$ (1.2)	\$ (1.4)		\$ (0.1)	\$ (0.0)		\$ (0.5)	\$ (0.6)	\$ (0.1)	\$ (1.4)	
1.4	Wiehle Avenue Garage built by Developer			\$ -	\$ -	\$ -	\$ -	\$ -		\$ -		\$ -			\$ -	No credit to be taken until Fairfax County reaches agreement with Developer.
1.5	Wiehle Avenue Bus Bays			\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -				\$ -	Remains in Project Scope.
1.6	Increase Min ATC design Headway & reduce Traction Power Requirements		\$ (13.0)		\$ (2.0)	\$ (11.0)	\$ (13.0)	\$ (2.0)		\$ (0.3)	\$ (9.6)			\$ (1.4)	\$ (13.3)	FFP and Allowance Change Order Executed.
1.7a	Use prefabricated Traction power Substations		\$ (8.4)		\$ (3.0)	\$ (5.4)	\$ (8.4)	\$ (3.6)		\$ (0.5)	\$ (4.7)			\$ (0.7)	\$ (9.4)	FFP and Allowance Change Order Executed.
1.7b	Use prefabricated Prewired signal houses		In 1.7a		In 1.7a		In 1.7a		In 1.7a		In 1.7a					
1.8	Use Microprocessor based ATC system design instead of present Relay Logic and discrete wiring		\$ (2.5)		\$ (0.2)	\$ (2.3)	\$ (2.5)	\$ (0.2)		\$ (0.6)	\$ (2.0)			\$ (0.3)	\$ (2.5)	FFP and Allowance Change Order Executed.
1.9	Use LAN/WAN TCP/IP communications system instead of present DTS technologies.		\$ -		\$ -	\$ -	\$ -	\$ 0.3		\$ 0.0	\$ -			\$ (0.0)	\$ 0.4	FFP and Allowance Change Order Executed.
1.10	Separate non-ATC communication systems from the ATC system		\$ -		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -			\$ -	\$ -	FFP and Allowance Change Order Executed.
1.11	Eliminate provisions for the future station at Wolf Trap			\$ (4.7)	\$ (4.7)	\$ -	\$ (4.7)	\$ (6.0)		\$ (0.6)	\$ -			\$ -	\$ (6.9)	FFP Change Order Executed.
1.12	Non-Recurring Rolling Stock Cost Allocation & Phasing				\$ -	\$ (31.3)	\$ (31.3)						\$ (29.0)	\$ (2.2)	\$ (31.3)	WMATA has accepted the mitigations as mutually acceptable strategies as described in Mr. Catoe's letter to Mr. Bennett of September 6, 2007.
1.13	Reduce the number of maintenance vehicles and equipment			\$ (2.1)	\$ -	\$ (2.1)	\$ (2.1)						\$ (2.0)	\$ (0.1)	\$ (2.1)	
1.14	Use existing parking lots during construction of the Wiehle Avenue garage rather than building additional spaces.			\$ (2.0)	\$ (0.3)	\$ (1.7)	\$ (2.0)	\$ -		\$ -	\$ (1.6)			\$ (0.2)	\$ (1.8)	Allowance Change Order Executed.
1.15	Realignment to accommodate future 3rd lane widening		\$ (5.0)		\$ (1.2)	\$ (3.8)	\$ (5.0)		\$ (1.1)	\$ (0.2)		\$ (3.3)		\$ (0.5)	\$ (5.0)	MWAA has committed funding for these improvements from outside the Project
1.16	Implementation of revisions to stations			\$ (18.1)	\$ (3.1)	\$ (15.0)	\$ (18.1)	\$ 1.4		\$ 0.2	\$ (13.1)			\$ (1.9)	\$ (13.4)	FFP and Allowance Change Order Executed.
1.17	Platform Canopy length adjustment			\$ (8.5)	\$ (1.2)	\$ (7.3)	\$ (8.5)	\$ (0.4)		\$ (0.1)	\$ (6.4)			\$ (0.9)	\$ (7.7)	FFP and Allowance Change Order Executed.
1.18	Emergency Crossovers on the DIAAH		\$ (5.3)		\$ (1.3)	\$ (4.0)	\$ (5.3)		\$ (1.1)	\$ (0.2)		\$ (3.5)		\$ (0.5)	\$ (5.3)	MWAA has committed funding for these improvements from outside the Project
1.19	PMSS Contract adjustment			\$ (19.6)	\$ -	\$ (19.6)	\$ (19.6)						\$ (19.1)	\$ (0.6)	\$ (19.6)	MWAA and PMSS have agreed to an overall Phase 1 budget including this reduction.
TOTALS		\$ (141.9)	\$ (23.9)	\$ (82.9)	\$ (24.9)	\$ (223.7)		\$ (10.0)	\$ (6.0)	\$ (2.4)	\$ (57.4)	\$ (19.0)	\$ (126.1)	\$ (21.5)		
GRAND TOTAL		\$	\$	\$ (248.6)	\$	\$ (248.6)	\$	\$	\$	\$ (18.4)	\$	\$	\$ (224.0)	\$	\$ (242.3)	

MODIFICATION TO ALLOWANCE VALUES - EXHIBIT 14.1.1

No.	Allowance Item	June 2007 Contract Price Schedule ¹	PMOC Recommended Adjustments ²	Adjusted Contract Price ²	Negotiated / Directed Cost Reduction ³	Current Contract Price Schedule ⁴	Overall Change from June 2007 Contract Price
		A	B	C (A + B)	D	E (C - D)	F (E - A)
1	Trackwork				(\$2,482,598)		\$10,228,751
2	Wiehle Parking Garage				\$0		\$3,616,193
3	Station Finishes and MEP				(\$24,194,354)		(\$14,651,939)
4	WFCY Sound and Box Platforms				\$0		\$1,308,762
5	Pedestrian Bridges				(\$1,381,304)		(\$164,511)
6	Site development				(\$144,109)		\$5,720,115
7	Installation of Public Art				\$0		\$51,249
8	Communications and Security				\$0		\$3,487,382
9	Fire Suppression				\$0		\$262,953
10	Elevators and Escalators				\$0		\$3,802,134
11	Spare Parts				\$0		\$33,457
12	WFCY S&I Building				(\$11,896,511)		(\$9,786,355)
13	Traction Power Supply				(\$9,825,812)		(\$6,352,436)
14	ATC Supply				(\$5,431,838)		(\$3,374,369)
15	Cathodic Protection and Corrosion Control System				(\$48,036)		\$16,081
16	Contact Rail and Hardware Supply				(\$392,537)		(\$626,808)
17	Wiehle Avenue Replacement Parking				(\$1,607,926)		(\$1,514,248)
	Totals	\$463,771,775	\$49,481,438	\$513,253,213	(\$57,405,027)	\$455,848,186	(\$7,923,589)

These redactions are necessary to protect the financial interests of the Airports Authority and Commonwealth of Virginia as well as those of Fairfax and Loudon Counties as local funding partners. The redactions are only in sections that address estimated amounts for individual allowances that could affect bidding strategies of future competitors, insurance cost information, or other information that allows computation of pricing information that is confidential.

Notes

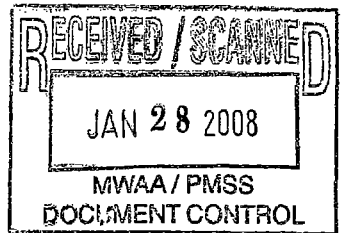
1. These values are based on the June 2007 Contract values included in Exhibit 14.1.1. These values include Subcontractor's Cost and DTP Mark-ups. They do not include Owner's Contingency.
2. These values include Subcontractor's Cost and DTP Mark-ups. They are based on the PMOC's Subtask 33B Spot Report (August 2007), Table 4, "PMOC Recommended Adjustments to Budget for Allowance Items", which are adjustments to the Contract Values included in Exhibit 14.1.1 of the D-B Contract. They do not include Owner's contingency.
3. This includes scope modifications as described in Contract Change Order Number CO-001, CO-002, CO-003, CO-004, CO-005, CO-006, CO-007, and CO-009. These values include Subcontractor's Cost and DTP Mark-ups. Consistent with the "Adjusted Contract Price Column", they do not include Owner's Contingency. The Value with the Owner's Contingency, as calculated in the Cost Mitigations, is approximately \$65.8M.
4. These values are the current values to be included in the Project Budget for the Allowances (before Owner's Contingency) with the implementation of the cost mitigation measures. This includes scope modifications as described in Contract Change Order Number CO-001, CO-002, CO-003, CO-004, CO-005, CO-006, CO-007, and CO-009.

Table 4 – PMOC Recommended Adjustments to Budget for Allowance Items

No.	Allowance Item	Current Base Year Allowance Cost	7% Labor Premium	General Conditions Percentage	General Conditions Amount	Revised Base Year Allowance Cost	Midpoint of Const. (years)	Escalation	Adjusted Subcontract Allowance Price	DTP Addition (Insurance, Tax, & Fee)	Adjusted Allowance Price
1	Trackwork						3.5				
2	Wiehle Parking Garage						3.5				
3	Station Finishes and MEP						3.5				
4	WFCY Sound Box and Platforms						3.5				
5	Pedestrian Bridges						3.5				
6	Site development						3.5				
7	Installation of Public Art						3.5				
8	Communications and Security						3.5				
9	Fire Suppression						3.5				
10	Elevators and Escalators						3.5				
11	Spare Parts						0				
12	WFCY S&I Building						3.5				
13	Traction Power Supply						3.5				
14	ATC Supply						3.5				
15	Catholic Protection and Corrosion Control						3.5				
16	Contact Rail and Hardware Supply						3.5				
17	Wiehle Avenue Replacement Parking						3.5				
	Total	\$390,797,867	\$1,908,900		\$76,235,282	\$416,765,782		\$44,089,059	\$460,854,842	\$52,398,371	\$513,253,212
	Budget Amount	\$390,797,867	\$0		\$52,176,267	\$390,797,867		\$27,784,347	\$418,582,214	\$45,189,562	\$463,771,776
	Differences		\$1,908,900		\$24,059,015	\$25,967,915		\$16,304,712	\$42,272,628	\$7,208,809	\$49,481,436

These redactions are necessary to protect the financial interests of the Airports Authority and Commonwealth of Virginia as well as those of Fairfax and Loudon Counties as local funding partners. The redactions are only in sections that address estimated amounts for individual allowances that could affect bidding strategies of future competitors, insurance cost information, or other information that allows computation of pricing information that is confidential.

**Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
CONTRACT CHANGE ORDER**



Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-440 1 Aviation Circle, Suite 154 Washington, DC 20001-6000 Telephone: (703) 417-8660	1A. MODIFICATION OF CONTRACT / ORDER NO.	1B. AWARD DATE													
	8-07-C004	June 19, 2007													
	2A. MODIFICATION NO.	2B. EFFECTIVE DATE	3. PROCUREMENT REQUEST NO.												
	Ten (010)	January 26, 2008	08-030-												
4. TYPE OF MODIFICATION		5. NAME, ADDRESS AND PHONE NO. OF CONTRACTOR													
<input checked="" type="checkbox"/> THIS CHANGE ORDER MAKES CHANGES DESCRIBED IN BLOCK 8, AND ARE MADE IN CONTRACT OR ORDER IN BLOCK 1A. <input type="checkbox"/> CONTRACT OR ORDER NUMBER IN BLOCK 1A IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES DESCRIBED IN BLOCK 8. <input type="checkbox"/> THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO AS SET FORTH IN BLOCK 8 BELOW. <input type="checkbox"/> OTHER (Please Specify)		Dulles Transit Partners, LLC 1595 Spring Hill Road, Suite 600 Vienna, Virginia 22182-2228													
6. IMPORTANT		7. ACCOUNTING DATA													
CONTRACTOR <input type="checkbox"/> IS NOT <input checked="" type="checkbox"/> IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN IT TO THIS OFFICE.		MF 7330 013 1982 5101 8000 = (\$7,923,589) DEDUCT FROM ALLOWANCES													
8. DESCRIPTION OF MODIFICATION															
<p>Contract Allowance Items – This Change revises the Design Build Contract to incorporate revisions to the Allowance Items scope and price. This Change revises Exhibit 14.1.1 Contract Price Schedule, Exhibit 14.1.6(a), part A, Allowance Items and Contract Allowance Price and Exhibit 14.1.6(c). The Changes are shown on the Attached Exhibits.</p> <p>Contract Price Adjustment:</p> <table border="1"> <tr> <td>Design-Build Firm Fixed Price (thru Change Order #009):</td> <td>\$1,063,985,122</td> <td>D-B Contract Price (thru Change Order #009):</td> <td>\$1,587,696,469</td> </tr> <tr> <td>Design-Build Contract Price Adjustment</td> <td>\$0</td> <td>D-B Contract Adjustment</td> <td>(\$7,923,589)</td> </tr> <tr> <td>Total Design-Build Firm Fixed Price:</td> <td>\$1,063,985,122</td> <td>Total D-B Contract</td> <td>\$1,579,772,880</td> </tr> </table> <p>This Change Order shall be in full accord and satisfaction of all direct costs arising out of or related to this change. The Parties acknowledge that the impact, if any, of this change on the Project Schedule has yet to be fully evaluated by the Parties. Any such impact will be incorporated in the Final Baseline Schedule during the review and approval process for such schedule and in accordance with the applicable requirements of the Contract Documents.</p> <p>This Change Order 010 is based on Change Orders 001 and 003 through 009, which describes the revisions to the Firm Fixed Price related to this change to the Allowance Items.</p>				Design-Build Firm Fixed Price (thru Change Order #009):	\$1,063,985,122	D-B Contract Price (thru Change Order #009):	\$1,587,696,469	Design-Build Contract Price Adjustment	\$0	D-B Contract Adjustment	(\$7,923,589)	Total Design-Build Firm Fixed Price:	\$1,063,985,122	Total D-B Contract	\$1,579,772,880
Design-Build Firm Fixed Price (thru Change Order #009):	\$1,063,985,122	D-B Contract Price (thru Change Order #009):	\$1,587,696,469												
Design-Build Contract Price Adjustment	\$0	D-B Contract Adjustment	(\$7,923,589)												
Total Design-Build Firm Fixed Price:	\$1,063,985,122	Total D-B Contract	\$1,579,772,880												
<p>Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.</p>															
9A. NAME AND TITLE OF CONTRACTOR		10A. NAME OF CONTRACTING OFFICER													
George B. Morschauer, Project Executive Director		Eric R. Carey													
9B. SIGNATURE	9C. DATE	10B. SIGNATURE	10C. DATE												
	1/28/08		1/28/08												
11. PROPERTY INFORMATION															
<input type="checkbox"/> CAPITALIZED ASSET <input type="checkbox"/> CONTROLLED ASSET <input type="checkbox"/> REAL PROPERTY															

**Exhibit 14.1.1
Contract Price Schedule**

(Revised through Change Order 10)

Design-Build Contract	D-B Contract Adjusted Price thru CO 9	Contract CO 10 S/C Allowances Items	D-B Contract Adjusted Price
Firm Fixed Price	\$1,063,985,122	\$0	\$1,063,985,122
Subcontract Allowances			
1 Trackwork		\$10,228,752	
2 Wiehle Parking Garage *		\$3,616,194	
3 Station Finishes and MEP		(\$14,651,939)	
4 WFCY Sound and Box Platforms		\$1,308,762	
5 Pedestrian Bridges		(\$164,511)	
6 Site Development		\$5,720,115	
7 Installation of Public Art		\$51,249	
8 Communications and Security		\$3,487,382	
9 Fire Supression		\$262,953	
10 Elevators and Escalators		\$3,802,134	
11 Spare Parts		\$53,457	
12 WFCY S&I Building		(\$9,786,355)	
13 Traction Power Supply		(\$6,352,436)	
14 ATC Supply		(\$3,374,369)	
15 Corrosive & Stray Currents		\$16,081	
16 Contact Rail		(\$626,808)	
17 Replacement Parking @ Wiehle Ave		(\$1,514,248)	
Subcontract Allowances Subtotal	\$463,771,775	(\$7,923,589)	\$455,848,186
FFP Insurance and Bonds	\$59,939,572		\$59,939,572
Total Design-Build Contract	\$1,587,696,469	(\$7,923,589)	\$1,579,772,880

These redactions are necessary to protect the financial interests of the Airports Authority and Commonwealth of Virginia as well as those of Fairfax and Loudon Counties as local funding partners. The redactions are only in sections that address estimated amounts for individual allowances that could affect bidding strategies of future competitors, insurance cost information, or other information that allows computation of pricing information that is confidential.

Exhibit 14.1.6(a)

A. Allowance Items and Contract Allowance Price

	D-B Contract	Contract CO 10	Adjusted Price
1 Trackwork		\$9,032,020	
2 Wiehle Parking Garage *		\$3,140,535	
3 Station Finishes and MEP		(\$13,347,991)	
4 WFCY Sound and Box Platforms		\$1,165,779	
5 Pedestrian Bridges		(\$194,407)	
6 Site Development		\$4,898,864	
7 Installation of Public Art		\$42,796	
8 Communications and Security		\$3,085,164	
9 Fire Supression		\$281,947	
10 Elevators and Escalators		\$3,208,914	
11 Spare Parts		\$0	
12 WFCY S&I Building		(\$8,838,207)	
13 Traction Power Supply		(\$5,944,306)	
14 ATC Supply		(\$3,150,256)	
15 Corrosive & Stray Currents		\$4,852	
16 Contact Rail		(\$645,579)	
17 Replacement Parking @ Wiehle Ave		(\$1,370,187)	
	\$418,582,214	(\$8,630,063)	\$409,952,151

These redactions are necessary to protect the financial interests of the Airports Authority and Commonwealth of Virginia as well as those of Fairfax and Loudon Counties as local funding partners. The redactions are only in sections that address estimated amounts for individual allowances that could affect bidding strategies of future competitors, insurance cost information, or other information that allows computation of pricing information that is confidential.

Exhibit 14.1.6(c)
Scope Descriptions of Allowance Items

C1
Trackwork

Scope of Work

Subcontractor shall furnish all plant, labor, materials, tools, supplies, equipment, transportation, supervision, permits, and services, and perform all operations necessary and required to satisfactorily complete the track installation work for the Project, which shall include, but not be limited to, the following:

A. General

Monuments will be furnished and installed by Contractor to be used by Subcontractor to establish the center line of both the outbound and inbound Main tracks and Yard tracks. All other layout and survey is the responsibility of the Subcontractor. Subcontractor is to perform survey work in accordance with the requirements of the Design-Build Contract, Division 01, Section 01050.

All traction power, signaling and communication conduit stub-ups shall be located prior to track construction by Contractor. Subcontractor shall protect track during construction and re-marked out after construction is complete.

The Contractor-furnished materials are limited to contact rail, cover board insulator assemblies, contact rail end approaches, expansion joints, contact rail anchors and related hardware. The Subcontractor will provide all other materials not specifically excluded and needed for ballasted and DF track construction, including, but not limited to, field welds, emergency guard rails, guard rails, cable troughs, and any miscellaneous track materials.

Subcontractor will construct new tracks to construction tolerance as specified and validate compliance as required.

Subcontractor will perform the following:

- Rail grinding to remove mill scale and rust
- Ultrasonic testing of the completed track
- Geometry car test runs to verify compliance with specifications

The Subcontractor shall provide a full time project Safety person and a full time Quality Control person responsible for the Subcontractor's work and labor force.

Subcontractor will be required to develop specific Work Plans for individual work elements as needed to support the construction plan and scheduling. As part of its Work Plan, Subcontractor shall develop a detailed schedule of work items to be completed during each Track Outage. This

detailed schedule shall include all activities by and interfaces with others necessary to complete the Scope of Work.

Subcontractor will be responsible for on-going maintenance of track during construction for those areas within the test track section (approximately defined by the Orange line tie-in and the Tysons East station).

Subcontractor will be responsible for performing rail-to-earth, rail-to-rail, and insulated-joint resistance testing and correct deficiencies prior to scheduled ATC system and dynamic testing (by others).

The plinth will be approximately 10' long by 4' wide by 6" high and accommodate 3-4 fasteners under each rail at 30" spacing. The specified concrete strength shall be 3500PSI. The Subcontractor shall determine the number of plinths needed based on the length of DF track.

All permanent insulated joints will be installed by the trackwork installer and will be field installed bonded insulated kits. It is estimated to be approximately 220 (not counting insulated joints in special trackwork). The actual number however, is to be verified by the Subcontractor.

The emergency guard rail (EGR) will be installed as Single or Dual EGR per the design drawings.

Bumping posts will be provided on the mainline tail tracks west of Wiehle Ave. and at the end of each yard track.

The scope of work includes coordination of the work with the Contractor and other Subcontractors working on other parts of this Project in the same area (such as tracks, stations, and supporting facilities) and with the government agencies having jurisdiction over the area of work or the roadway. The scope also includes coordination of the work with utility companies installing or relocating utilities to serve the Project.

The contractor must prepare an execution plan for its work and provide input to the overall Project execution plan and as necessary to develop Site Specific Work Plans (SSWP) as required by WMATA.

B. Station 1344+02.98 to STA 726+24.70 IB track (N1) and OB track (N2)

Detail design, engineering, survey, and installation of all main line, yard expansion and Yard line Extension. Supply of special trackwork is included which encompasses wood switch timber for ballasted track and Guideways and Tunnel Direct Fixation special Trackwork.

Construct new track and cable trough from top of sub-ballast for ballasted track or top of invert for Direct Fixation track. This work will include supply and installation of concrete and rebar for plinths in DF track and cable trough in the ballasted track per design drawings and specifications. The Subcontractor will not be responsible for installation of the stirrups in the invert but will be required to maintain the stirrups to ensure they are not damaged during the construction of the Trackwork.

Management, engineering, survey and installation of all track materials, including ties, DF fasteners, rail, ballast, concrete, contact rail, tie extenders and all appurtenances.

Management, engineering, survey and installation of Ballast track and Direct Fixation track including contact rail system and all appurtenances on aerial structures and within tunnels.

Welding rail into continuous welded rail lengths (CWR) and related handling prior to installation. Pre curved rail or pre curved restraining rail when required is the responsibility of the Subcontractor.

Installation of all new tracks within Project limits.

Testing of materials, track inspection and maintenance activities during the Design Build (D/B) and testing phase of the Project to final acceptance.

C. Orange Line Tie-in Area 1: STA 475+50 to STA 498+38.89

In addition to the scope defined in B., above:

1. Develop a detailed installation plan, including sketches for all special trackwork installation, specifically a new No. 10 Double Crossover and two No. 15 turnouts (LH&RH) including switch machines.
2. Construct new vertical alignment in existing tracks 1 & 2 as shown in drawings K56-PP-001 through K56-PP-006.
3. Supply all geotech membrane and materials not specifically excluded.
4. Installation of all new track within the Project limits per design.
5. Removal of existing tracks and ballast for installation of special trackwork including removal of existing rail and installation of new rail for approximately 120 feet of existing tracks 1 and 2 between the crossover and new turnouts and handling all material to storage.

D. Yard Extension Area 2: STA 776+18.47(N3) to STA 765+13.92 (N3) and continuing to STA 8+78.99(YL3) to STA 0+00 (YL3)

Same as B., above.

E. Yard Storage Track Area and Shop Annex 3 : STA 11+11.07 to end STATION of storage tracks 6A through 6H

In addition to the scope defined in B., above, convert two former storage tracks to struct new yard lead tracks from top of subgrade as shown in drawings K99-PP-001 and K99-PP-002 and K99-PP-

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004 and K99-PP-005 serving a Shop Annex, and five new storage tracks, as depicted on Attachment 1 to DTP Request for Change (RFC-006 Rev. 1, 25235-000-GPC-GARC-00006).

In addition to the scope defined in B., above:

1. New switches will be provided on ballasted track.
2. The track will be embedded beginning at the apron on the west side of the Shop Annex and will terminate at a train stop at the east end of the Annex.
3. The scope includes furnishing and installing the contact rail within the limits described above.

F. Open Item WFC-1 for Expanded Maintenance Facility

This item is deleted by Contract Change Order Five (005), which incorporates the scope of work from DTP Request for Change RFC-006 Rev. 1, transmitted by DTP letter 25235-000-T07-GAMM-00026.

~~Open Item WFC-1 has modified the scope to include two new tracks added to serve the expanded Shop Building. These changes have been documented as part of Open Item Package WFC-1, Volume III - Basis of Open Items Pricing (FFP) date February 8, 2007. In addition to the scope defined in B., above:~~

- ~~1. New switches will be provided on ballasted track west of the facility.~~
- ~~2. The track will be embedded beginning at the apron on the west side and extending through the expansion to the apron on the east side.~~
- ~~3. The track and switches on the east side will be rearranged to provide sufficient length to park a married pair outside the building without fouling a switch.~~
- ~~4. The scope includes furnishing and installing the contact rail within the limits of the Shop expansion described above.~~

Work Not Included

1. Traction power, signaling and communication installation is excluded. Also excluded from the scope of this package is supplying cables, contact rail heaters, clips, bolts and other hardware needed to make cable attachments to the contact rail.
2. Flange lubricators are not included in the Subcontractor's scope.
3. Demolition of existing retaining wall, relocation of cable trough and replacing intrusion redetection fencing in Area 1.
4. Associated design services, except as noted above.
5. Stations, bridges, tunnels and facilities.

Reference Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document:

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<u>Spec No</u>	<u>Specification Title</u>
02727	Ballast
03200	Concrete Reinforcement
03300	Cast in Place Structural Concrete
03480	Concrete Cross Ties and Fastenings
05091	Rail Welding
05651	General Track Construction
05652	Ballasted Track Construction
05653	Direct Fixation Track Construction
05654	Special Trackwork Construction -Ballasted
05655	Special Trackwork Construction -Direct Fixation
05656 *	Running Rail
05657	Direct Fixation Rail Fasteners
05658	Track Appurtenances and Other Track Material
05659	Special Trackwork
05660	Restraining Rail and Lubricators
05661	Contact Rail and Appurtenance for Traction Power
05662	Embedded Track Construction
05663	Field Rail Welding
06130	Timber Ties
13115	Corrosion Control System Testing
16060	Grounding and Bonding
16127	Contact Rail System Installation
16979	ATC – Surface Trench

* See revised version included in 65% Design Submittal, dated 10/6/06

C3
Station Finishes & Mechanical, Electrical, and Plumbing

Scope of Work

Furnish all plant, labor, materials, tools, supplies, equipment, hoisting services, transportation, supervision, and services, and perform all operations necessary and required to satisfactorily complete the work, which shall include, but not be limited to, the activities described below. The basic layout, dimensions, and finishes of the stations, remote buildings, and tunnel/vent structures shall be as shown on the 100% PE drawings and as modified by the following Open Items and Contract Change Order Six (006) and Contract Change Order Nine (009):

1. Open Item A-02, deleting TPSS #9.
2. Open Item A-19, adding a second elevator at the noted entry pavilions.
3. Open Item A-26g, revising the WMATA lighting criteria.
4. Open Item A-28a, addressing bathroom facilities at stations.
5. Open Item A-29, providing an elevated mezzanine at the Tysons Central 123 station.
6. Open Item A-30, widening the pedestrian bridges.
7. ~~Open Items 55-63, extending the length of the station canopies.~~

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007.

A. General

All of the listed work will be included within this scope. Items to be furnished and installed include:

- Electrical
- Mechanical
- Granite/Concrete paver and ceramic tile
- Masonry
- Structural Steel
- Ornamental metals and miscellaneous metals
- Fireproofing
- Roofing (Metal and SSM roof)
- Roofing (Membrane roof)
- Ceilings
- Overhead doors
- Glass and skylights

- Signage
- Louvers (Vent stacks)
- Painting
- Drywall
- Monorails
- Precast (Architectural concrete panel)
- ~~Ductal Cladding (Ultra-high performance concrete)~~
- Site furnishings (Doors, benches and trash cans)

The above listed scope of work includes, but may not be limited to the following items, identified by CSI division:

Division 2

- Bicycle racks
- Bicycle lockers
- Trash cans
- Benches
- Bollards

Division 3

- Precast concrete cladding
- Concrete floor deck (pedestrian bridges)
- Precast concrete walls, parapets, stairways, and coping
- Precast ceiling panels (TPSS rooms)
- Remote buildings -Footing, slabs and all associated reinforcement materials

Division 4

- Masonry block
- Brick
- Granite trim

Division 5

- Roof and floor metal decking
- Steel mezzanine and platform canopies
- Service room roof framing
- Curtain wall support steel
- Pavilion framing
- Bus canopy
- Miscellaneous metals
- Expansion joints
- Aluminum shading fins (pavilions)
- Stainless steel, including platform canopy roof edge-, escalator and elevator cladding, woven mesh (scrim – walls, railings, and ceiling), and handrails

Division 6

- Protective covers (for escalators during construction)
- Cabinets

Division 7

- Mezzanine and platform canopy roofing system - densdeck, insulation, metal
- Roofing
- Built up membrane roofing
- Gutters and downspouts
- Caulking
- Pavilion and bus canopy roofing system
- Roof and access hatches
- Fireproofing

Division 8

- Glass / window walls
- Elevator glass
- Skylights
- Glazed screen
- Glass doors
- Hollow metal doors
- Overhead doors
- Soffit screen
- Louvers

Division 9

- Granite flooring
- Ceramic tile
- Porcelain tile
- Vinyl tile
- Suspended acoustical tile ceiling system
- Suspended metal tile ceiling system
- Perforated metal ceiling system
- Painting

Division 10

- Bathroom accessories
- Seating benches
- Signs and identification devices

Division 13

- Station manager kiosks
- Windscreens
- Parking control booths

Division 15

- Fans
- Unit heaters
- Wall heaters
- Ventilation units
- Air conditioning units
- Air conditioning systems
- Dampers
- Drains
- Oil water separators
- Tanks
- Bathroom fixtures
- Water heaters
- Utility sinks
- Kitchen sinks
- Sump pumps
- Floor drains
- Drain piping system
- Eyewash / body spray stations

Division 16

- Temporary (for construction) service and distribution equipment at West Falls Church Yard and twelve remote buildings, wiring for general lighting, relamping, and power for small tools
- Grounding grids and connections to station and remote building.
- Electrical, TPSS, Communication, ATC and trackwork ductbanks within and stubbed 5' outside the footprint of five stations and twelve remote buildings.
- Manhole and handholes within and stubbed 5' outside the footprint of five stations and twelve remote buildings.
- Touchup paint for electrical equipment.
- Access panels.
- Sealing for raceways.
- Starters and disconnect switches (loose).
- AEMS RTU's and interface cabinets for stations, including connecting conduit, wire, and connectors.
- DTS interface cabinets for stations, including conduit, wire, and connectors needed to connect to DTS RTU's.
- Exposed conduit and cable tray.
- Power distribution equipment, except (1) UPS and battery systems for TPSS and TBS and (2) ATC TCR and RTC power distribution normal and emergency power disconnect switches.
- Lighting and controls, except (1) ETS blue lights and associated wiring and (2) Flood lights at track switches.
- Wiring devices.
- Power feeder and single point connection for mechanical equipment.
- Mounting strut in under platform plenums.

- Normal and emergency power feeder to elevator disconnect switch.
- Normal and emergency power feeder to escalator disconnect switch.
- Power feeder to kiosk panel board.
- Automatic Fare Collection under floor duct and associated electrical room panelboards.
- Power feeder and single point connection to piping heat tracing controls
- Power feeder and single point connection to miscellaneous equipment including Lighted signage, windscreens (platform and site), map cases, and lighted handrails

The scope of work includes coordination of the work with the other contractors working in the areas and with the government agencies having jurisdiction over the area of work.

Working sessions with Contractor construction and planning staff to establish constructability and schedule planning. Such discussions shall include interfacing and coordination planning with other work, labor resources, equipment resources, estimated durations for each sequence of work, and exchanging ideas for execution of the work.

B. Stations

The limits of the work area for the stations are defined by the station platform area, including the service room areas (typically located at each end of the platform), the mezzanine areas, the pedestrian bridges and associated entrance pavilions as shown on the 100% PE drawings.

Architectural finish / structural work:

- Platform and/or mezzanine canopies
- Roof joists
- Miscellaneous metals, including stairs, handrails and railings.
- Ornamental metals
- Expansion joint systems
- Roofing and flashing
- Firestops and fireproofing
- Stud walls
- CMU walls
- Windows and associated hardware
- Skylights, glass and glazing
- Doors and associated hardware
- Field Painting and coating
- Ceiling systems
- Tile and floor systems
- Louvers / screens
- Toilet partitions and accessories
- Platform and site furnishings (including Bus kiss-n-ride lots)
- Signage

Mechanical:

- Heating and cooling equipment and systems, including associated ductwork and related systems, including power connection
- Balancing and testing of systems
- Piping, and associated plumbing fixtures
- Clean Agent FM-200 Fire Suppression System for truss area of in-station escalators for all five (5) stations (note modifications defined in Open Item A-26b).

Electrical:

- Electrical and lighting systems
- Embedded conduits within the structures and slabs are part of this scope

C. Remote TPSS, TBS, Communications, and TCR Buildings/Compounds

All remote TPSS, TBS, Communications, and TCR rooms will be pre-fabricated modularized TPSS, TBS, Communications, and TCR enclosures to be furnished and installed by others, within an architectural compound surround wall. Furnish and complete, to include applicable items listed under Section B (Stations) above. In addition, work to include architectural compound surround wall and associated architectural finish elements. Conduits within the slab or penetrating thru the slab to serve pre-fabricated Traction Power and Train Control TPSS, TBS, and TCR Room enclosures are part of this scope. Sites for the remote structures are to be rough graded by others. However, final leveling of the building compound pad (up to 5' outside the structure) is included in this scope.

D. Tunnel and Vent Structures

- Ventilation finishes complete at the east and west tunnel portals.
- Tunnel mechanical and electrical building systems complete for east and west tunnel portals.
- Tunnel electrical and lighting System (does not include traction power).
- All signage for the associated portals.

E. Submittals

The Subcontractor will provide design review, testing, and inspection submittals in accordance with the requirements of Division 01 of the Contract.

Work Not Included

1. The station and ventilation buildings main structural systems.
2. Supply and installation of fire suppression system equipment.
3. Communication, Security, Automatic Train Control or Traction Power Supply systems.

4. Traction Power, ~~and Train Control, and Communications~~, including MEP and finishes such installation in ~~the remote TPSS, TCR, and TBS pre-fabricated enclosures~~ buildings.
5. Fare Collection Equipment

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are listed below:

Spec No	Specification Title
Division 2	
02205	Removal and Restoration of Existing Facilities
02220	Demolition
02230	Site Clearing
02320	Grading, Excavating and Backfilling
02585	Underground Electrical and Communications Distribution Systems
02871	Bicycle Racks and Storage Lockers
Division 3	
03100	Concrete Formwork
03200	Concrete Reinforcement
03300	Cast-in-Place Structural Concrete
03331*	Cast-in-Place Architectural Concrete
03400	Structural Precast Concrete
03415	Prestressed Concrete
03450*	Plant – Architectural Precast Concrete
03455*	Ultra High Performance Concrete
Division 4	
04050	Mortar, Grout And Masonry Accessories
04215*	Brick Masonry
04220	Concrete Unit Masonry
04415	Granite
Division 5	
05120	Structural Steel
05122	Architecturally Exposed Structural Steel
05210	Steel Joists
05310*	Metal Decking
05400*	Cold Formed Steel Framing

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05500* Miscellaneous Metal
05511 Metal Stairs
05521 Handrails And Railings
05531 Gratings And Floor Plates
05581 Formed Metal Fabrications – Station Kiosks
05700* Ornamental Metals
05705* Woven Mesh Panels
05725* Stainless Steel Handrails, Guardrails and Lighted Handrails
05810 Expansion Joint Cover Assemblies
05811 Expansion Joint Systems

Division 6

06075 Wood Preservative Treatment
06100 Rough Carpentry
06402 Interior Architectural Woodwork

Division 7

07110 Damp Proofing
07125 Membrane Waterproofing
07165 Metallic Waterproofing
07180 Traffic Coatings
07210 Building Insulation
07410* Metal Wall and Roof Panels
07411 Sheet Metal Roofing Systems
07515 Built Up Roofing
07553 Self-Adhering Modified Bituminous Membrane Roofing
07600 Flashing and Sheet Metal
07730 Roof Accessories
07812 Cementitious Fireproofing
07815 Sprayed Fireproofing
07841 Fire Stopping
07900 Seals And Sealants

Division 8

08110* Hollow Metal Doors And Frames
08305 Access Doors And Frames
08331* Overhead Coiling Doors
08334 Overhead Coiling Grilles
08410* Aluminum Entrances And Storefronts
08481 Metal Concave Mandoors
08520* Aluminum Windows
08625 Metal Framed Skylights
08710* Finish Hardware
08800* Glass And Glazing
08900 Aluminum Curtain Wall

Division 9

09205 Furring And Lathing
09215 Plaster Systems
09220 Cement Portland Plaster
09255 Drywall Systems
09320 Ceramic Tile
09340* Paver Tile
09511 Acoustical Panel Ceilings
09547* Metal Ceiling Panels
09650 Resilient Flooring
09920 Field Painting

Division 10

10155 Toilet Partitions, Compartments And Screens
10200 Metal Louvers
10290 Bird Control
10430 Specialty Signs
10431 Site Pylon Signs
10505 Metal Lockers
10605 Wire Mesh Partitions
10810 Toilet Accessories
10815* Station Furnishings

Division 11

11010 Roof Anchors
11014 Fall Protection Equipment

Division 13

13085 Sound and Vibration Isolation Pads
13110 Stray Current and Cathodic Protection
13115 Corrosion Control System Testing
13905 Fire Protection, Suppression and Alarm

Division 14

14200 Hydraulic Elevators
14220 Holeless Hydraulic Elevators
14240 Traction Elevators
14300 Heavy-Duty Escalator

Division 15

15070 Vibration Isolation
15075 Identification Of Mechanical Equipment And Piping
15080 Insulation
15125 Piping Conduit
15135 Miscellaneous Pumps
15205 Piping Systems
15410 Plumbing Fixtures

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15444 Drainage Pumping System
15445 Sewage Ejectors
15480 Domestic Water Heaters
15725 Ventilating Units And Heating Equipment
15735 Self Contained Air Conditioning Units -Packaged
15736 Kiosk Mechanical Work
15737 Air Cooled Split System Air Conditioning Units -Air Cooled Split System
15765 Heating Equipment
15810 Ductwork
15825 Sound Attenuators
15830 Fans
15850 Outlets And Grilles
15865 Filters
15900 Control Equipment
15950 System Balancing And Testing

Division 16

16060 Grounding and Bonding
16120 Wire, Cable and Busways
16125 Wire Connection Accessories
16130 Raceways, Boxes And Cabinets
16145 Wiring And Control Devices
16220 Emergency Standby Generator System
16225 Motors
16260 Uninterruptible Power System
16270 Transformers
16320 High Voltage Switchgear
16360 Unit Substations
16425 Motor Starters and Control Centers
16435 Low Voltage Switchgear And Switchboard
16440 Circuit Breakers, Panelboards and Load Centers
16441 Drainage and Negative Switchboard
16451 Substation Busway for Traction Power
16525 Lighting Fixtures and Mounting Poles
16565 Flashers And Dimmer Control Systems
16601 Automated Energy Management System (RTU Interfaces)
16704 Communications Standard Specifications -Installation
16705 Communications Standard Specifications – Equipment & Material
16710 Communications Grounding
16715 Communications Electrical Power Distribution
16721 Communications Telephone System
16729 Communications – Passenger Information Display System
16820 Communications – Public Address System
16851 Communications – Passenger Station Closed-Circuit Television System
16866 Interface Criteria and Responsibilities
16941 Basic ATC Electrical and Electronic Component Requirements

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* See revised version included in 65% Design Submittal, dated 10/6/06

C4
West Falls Church Yard Sound Cover Box
and Covered Walkway

Scope of Work

The Subcontractor shall design, furnish, and install a sound cover box and covered walkway in the West Falls Church yard. The basic layout, dimensions, and finishes of the cover box and walkway shall be as shown on the 100% PE drawings, as modified by Contract Change Order Five (005). Improvement to the layout may be considered during the design process, subject to Contractor approval.

A. General

The Subcontractor shall include the complete design and construction of the structural elements/features of the "sound cover box and covered walkway" associated with the Project at the West Falls Church yard including, but not limited to, the following components:

- Design calculations
- Shop drawings
- Steel Fabrication
- Delivery
- Erection
- Fire Suppression System
- Columns foundation
- Base plates
- Columns, girts and headers
- Steel roof Trusses and bar joists
- Roof Deck
- Shop or Field Painting of metal parts
- Standing seam metal roof
- Metal siding walls
- Access doors and fenestration
- Sound insulation
- Lighting and grounding
- Grading
- Covered Walkways at 8-5 storage tracks

The Subcontractor shall prepare any drawings and/or documents required for any building permits. The design scope of work shall include, but not be limited to, design engineering services required to produce the following deliverables:

- Preliminary and Final Design Drawings
- Construction Drawings
- Construction Specifications
- Supporting Documents and/or Reports

- Record Deliverables

The Subcontractor designs shall conform to all applicable federal, state, county, city, local codes, standards, laws, rules, ordinances and regulations of the authorities having jurisdiction over the site and as specified in the contract documents.

Covered Walkway at Operations and Field Base Building - Subcontractor is to include the extension of the covered walkway to serve the additional ~~eight~~ five storage tracks. This design will match the existing walkway and cover. The walkway space required is as shown on Drawings K99-S-300, 301, and 302

B. Construction

The construction work includes furnishing all permits, plant, labor, materials, tools, supplies, equipment, transportation, supervision, and services (excepting material and equipment identified under Work by Others below), and perform all operations necessary and required to install, where called for on the plans, those elements specified on the final design documents. All work will be in accordance with the requirements in the Design-Build Contract, Division 01.

Work Not Included

Relocation of existing train signals, track heater boxes and light poles
Clearing and backfill leveling to grade elevation of 3 acre area for staging of the construction
Demolition of existing sound walls to make room for the new Sound Cover Box Specifications

Specification

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document:

Spec No.	Specification Title
02320	Grading, Excavating and Backfilling
03000	Concrete
03100	Concrete Formwork
03200	Concrete Reinforcement
03300	Cast-in-Place Structural Concrete
05120	Structural Steel
05210	Steel Joists
05310	Metal Decking
07210	Building Insulation
07410	Metal Wall Panels
07600	Flashing and Sheet Metal

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07730	Roof Accessories
07900	Seals and Sealants
08110	Hollow Metal Doors and Frames
08710	Finish Hardware
13905	Fire Protection, Suppression and Alarm
16060	Grounding and Bonding
16120	Wire, Cable and Busways
16125	Wire Connection Accessories
16130	Raceways, Boxes and Cabinets
16145	Wiring and Control Devices
16270	Transformers
16440	Circuit Breakers, Panelboards and Load Centers
16525	Lighting Fixtures and Mounting Poles
16701	Definitions of Communications System Terms
16702	Communications Abbreviations
16703	Communications Standard Specifications-Engineering Services
16704	Communications Standard Specifications-Installation
16705	Communications Standard Specifications-Equipment & Material

C5
Pedestrian Bridges

Scope of Work

The Subcontractor shall design, furnish and erect pedestrian bridges of steel construction. The following scope describes the minimum standards for design and construction. The basic layout, architectural and preliminary designs, and dimensions of the bridges shall be as shown on the 100% PE drawings ~~and as modified by Open Item A-30, widening the pedestrian bridges, and Contract Change Order Six (006).~~ ÷

~~Open Item A-30, widening the pedestrian bridges.~~

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007, and the above-referenced Contract Change Order.

A. General

The limits of the work area will be defined by the length of the spans at the locations presented on the referenced drawings. The scope of work includes coordination of the work with the other contractors working in the areas and with the government agencies having jurisdiction over the area of work.

The Subcontractor will provide input on constructability and phasing of the work during the detailed design phase of the Project, in an effort to complete the work in a timely manner. The Subcontractor must prepare an execution plan for its work and provide input to the overall Project execution plan.

The Subcontractor will furnish all plant, labor, materials, tools, supplies, equipment, transportation, supervision, and services, and perform all operations necessary and required to satisfactorily complete the work, which shall include, but not be limited to, the following activities for each of the pedestrian bridges:

B. Pedestrian Bridge Components

- Steel Box Truss ~~(including “nodes”)~~
- Continuous Roof Edge Channels
- Roof Deck
- Floor Deck
- Base plates, Truss to Concrete Support assembly including Expansion Joints as required and Anchor Bolts
- Conduit and piping below floor deck (install only)

C. Construction

- Fabrication
- Delivery
- Erection, including Cranes and Rigging Equipment
- Temporary permits
- MOT for the work performed

D. Submittals

Submittal requirements include, but are not limited to:

- Final design drawings, calculations, shop drawings including schematic drawings and diagrams shall be submitted. Schematic drawings shall include dimensioned cross sections of bridge structure, deck plan and details, support system for metal roof, bearings, anchor bolt reactions and elevations.
- All final design drawings and calculations shall be signed and sealed by a Professional Engineer licensed in the Commonwealth of Virginia.
- Erection plan and procedures
- Record Deliverables

Work Not Included

1. Architectural finishes, including station signage.
2. Mechanical, Electrical, and Plumbing, including supply and installation of fire suppression systems.
3. Foundations.

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006). Applicable specifications are also included as part of this document:

Spec No.	Specification Title
5120	Structural Steel
5210	Steel Joists
5310*	Metal Decking
5500*	Miscellaneous Metal
5811	Expansion Joint Systems
5840	Bearings
7411	Sheet Metal Roofing Systems
7730	Roof Accessories

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7900 Seals and Sealants
9920 Field Painting

* See revised version included in 65% Design Submittal, dated 10/6/06

C6
Site Development

Scope of Work

The scope includes: civil/site (roadwork), street lighting, permanent traffic signals and landscaping. The civil/site work associated with this Allowance Item includes the following areas:

- All roadwork with the exception of restoration and paving of the DIAAH/DCR and DTR;
- Site work and access roads to remote buildings and compounds;
- Work along the Route 7 and Route 123 Corridors (to include the station parking lots and access roads);
- ~~Wiehle Avenue Parking lots;~~
- All site work being performed in the West Falls Church Yard, to include the SWM pond.

The basic configuration of this site development work shall be as shown on the 100% PE drawings and as modified by the following:

1. Open Item A-02, deleting TPSS #9.
2. Open Item A-07, modifying the requirement for emergency crossings along the DIAAH.
3. Open Item A-08, modifying the horizontal alignment along the DIAAH.
4. Open Item A-11, providing mid-block pedestrian crossings on Route 7.
5. Open Items A-12 and A-16, providing Route 7 streetscaping and lighting.
6. Open Item A-13, widening Spring Hill Road.
7. Open Item A-15, modifying the Wiehle Avenue bus ramp.
8. Open Items A-19, modifying the provisions for elevators at some station pavilions.
9. Open Item A-31, modifying screening for SWM pond, TPSS, and other wayside structures.
10. Open Item DTE 1/O-12, widening sidewalks along Route 123.
11. Open Items VDOT Dev 97 and DCR, modifying the Route 7 median and DCR NB lanes.
12. The scope of work included in DTP Request for Change (RFC) No. RFC-001 Rev. 1, 25235-000-T07-GAMM-00011), changing to prefabricated modular traction power design.
13. The scope of work included in DTP Request for Change (RFC) No. RFC-002 Rev. 1, 25235-000-T07-GAMM-00012), eliminating provision for future Wolf Trap Station.

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14. The scope of work included in DTP Request for Change (RFC) No. RFC-003 Rev. 1, 25235-000-T07-GAMM-00013), changing to use of LAN/WAN technology.
15. The scope of work included in DTP Request for Change (RFC) No. RFC-004 Rev. 1, 25235-000-T07-GAMM-00014), changing to microprocessor-based automatic train control.
16. The scope of work included in DTP Request for Change (RFC) No. RFC-006 Rev. 2, 25235-000-T07-GAMM-00058), revisions to West Falls Church Yard and Shop.
17. The scope of work included in DTP Request for Change (RFC) No. RFC-007 Rev. 4, 25235-000-T08-GAMM-00005), passenger station feature revisions.
18. The scope of work included in DTP Request for Change (RFC) No. RFC-009 Rev. 1, 25235-000-T07-GAMM-00059), traction power design changes (including deletion of TPSS #7).
19. The scope of work included in DTP Request for Change (RFC) No. RFC-010 Rev. 1, 25235-000-T07-GAMM-00040), modifications to Wiehle Avenue Station and bus facilities.

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007, and the above-referenced RFCs.

The Subcontractors will be required to furnish all plant, labor, materials, tools, supplies, equipment, transportation, supervision, and services, and perform all operations necessary and required to satisfactorily complete the work in the assigned areas, which shall include, but not be limited to, the following:

- Construction survey and layout of the work (survey monument will be provided)
- Demolition of pavement and structures
- Clearing and grubbing
- Grading and drainage (including Water Quality Inlets and sand filters/BMPs)
- Storm water management during construction
- Sediment and Erosion control measures
- Rough grading
- Replacement of street lighting (including temporary lighting, relocation and new installation)
- Intersection signal lights (temporary and permanent)
- Roadway subgrade preparation
- Temporary and Permanent Pavement (including Roadways, Park & Ride/Kiss & Ride Lots, TPSS/TBS and Station Area Access Roads, Restoration and modifications to existing roads, Bus Bay Areas, and Bus Access Ramps)
- Curb and Gutter including entrances
- Sidewalks
- Pavement Marking
- Earthwork – Mass excavation and mass fill, including hauling, stockpiling and disposal of spoil material

- Temporary and Permanent Road Signage (regulatory, street names and way finding)
- Maintenance of all of the above items during the construction phase
- Temporary traffic barriers (where required)
- Permanent power-operated crossing barriers including power and controls
- Temporary fencing (where needed)
- Landscaping – hardscape: precast pavers, special paving
- Landscaping – planting materials, preparation and installation
- Landscaping – drainage features, rain gardens, drainage rills
- Maintenance of traffic – development of construction sequencing and scheduling associated with the work, and obtaining related permits
- SWM Ponds, drainage structures, related directional boring and outfalls at West Falls Church Yard
- Preparation of construction staging areas associated with the work

The scope of work includes coordination of the work with the other Subcontractors working on other parts of this Project in the same area and with the government agencies having jurisdiction over the area of work or the roadway. The scope also includes coordination of the work with utility companies installing or relocating utilities to serve the Project.

The scope also includes Maintenance of Traffic (MOT) to maintain the flow of existing level of traffic. The MOT work will be limited to that necessitated by the Subcontractor construction activities. In general, the work is being designed and will be constructed to VDOT standards. The scope includes provision for police enforcement of MOT, if required.

Phasing of the work must be planned to maintain traffic movement and access to public and private sites and businesses during construction. MOT plan may require modification to incorporate the construction of tracks, stations and supporting facilities. Phasing and MOT work must consider space for all equipment such as cranes, loaders, delivery trucks and other equipment used in assembling the structures and making material deliveries to the construction area of the tracks and the stations.

All permits for road access, construction, and MOT are part of the scope of this subcontract. Construction phased MOT and intersection signalization submittals for VDOT and Fairfax County review and approval are the part of this scope.

The street lighting is limited to replacement street lights along Route 7 and all other exterior site lighting at stations, West Falls Church yard, remote buildings and compounds, and parking areas (as modified by Open Items A-12 and A-16) and the above-referenced RFCs.

The Permanent Traffic Signal subcontract will include all new and replacement traffic signals Project-wide. Similarly, the Landscaping subcontract will apply to all landscape work throughout the Project, to include station areas and guideway segments.

The Subcontractor will provide input on constructability and phasing of the work during the detailed design phase of the Project, in an effort to coordinate and complete the work in a timely

manner. The Subcontractor must prepare an execution plan for its work and provide input to the overall Project execution plan.

The scope of work also includes all site development activities in West Falls Church Yard. This includes construction of the detention basin and all site development work extending from the lead track area to the cut & cover tunnel portal to the ~~track storage~~ track area and track platform.

Specific items include:

- Clearing and grubbing
- Grading, including cut and fill
- Demolition, including fence removal
- Storm drainage system, including abandon, fill and plug, modification, new and jacking, ditches
- Ballast screen inlets
- Roadwork
- Curb and gutter
- Tie-in of existing roads
- Striping and marking
- Traffic signs
- Bollards

Work Not Included

1. Utility relocation – sewers, drain lines, VDOT utilities, concrete ductbanks for electrical and communication services, manholes and handholes, water and fire lines, gas lines and associated facilities, and high voltage lines will be performed by others.
2. Utility feeds – branch lines for water, sewer, electrical or communication lines leading to the stations and facilities will be performed by others.
3. Track, stations and relevant facilities will be constructed by others.

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Virginia Department of Transportation, Road and Bridges Specifications of 2002, defined herein as Project specification No. 25071-000-VDOT-SPEC-001, which can be found at the VDOT web site at <http://www.virginiadot.org/business/manuals-default.asp>, see also attached table of content, will be the basis of the Project specifications.

Additional applicable specifications are also included as part of this document:

Spec No.	Specification Title
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02205	Removal and Restoration of Existing Facilities
02220	Demolition
02230	Site Clearing
02260	Support of Excavation
02270	Maintenance, Support and Restoration of Utility Facilities
02320	Grading, Excavating and Backfill
02480	Mechanically Stabilized Earth Walls
02515	Water Distribution
02535	Sanitary Sewers
02585	Underground Electrical and Communications Distribution Systems
02625	Subway Drainage System
02635	Storm Sewer
02765	Pavement Markings
02772	Curbs, Gutters, and Walks
02820	Fencing
02920	Topsoil, Seeding and Sodding
02930	Landscaping

VDOT Roads and Bridge Standards, which can be found at web site <http://www.virginiadot.org/business/locdes/road-and-bridge-standards.asp>, are considered part of this document.

C7
Installation of Public Art

Scope of Work

In accordance with the guidelines presented in FTA Circular 9400.1A, "Design and Art in Public Transportation Projects". The scope of work is for the installation of artwork provided by others.

Work not Included

The scope excludes the solicitation, selection and awarding commissions to art and design professionals, the artwork, and its delivery to the station locations.

C8
Communication and Security Systems

Scope of Work

The scope of work includes design, furnishing, installation, and testing of the following systems in the Passenger Stations, and/or ancillary facilities, in accordance with the project communications specifications referenced below and the 100% PE drawings and as modified by:

Open Item A-19, modifying the FIA, IIS, Telephone, and CCTV systems.

Open Item DL-2, adding a WMATA LAN/WAN.

The scope of work included in DTP Request for Change (RFC) No. RFC-001 Rev. 1, 25235-000-T07-GAMM-00011), changing to prefabricated modular traction power design.

The scope of work included in DTP Request for Change (RFC) No. RFC-003 Rev. 1, 25235-000-T07-GAMM-00013), changing to use of LAN/WAN technology.

The scope of work included in DTP Request for Change (RFC) No. RFC-004 Rev. 1, 25235-000-T07-GAMM-00014), changing to microprocessor-based automatic train control.

The scope of work included in DTP Request for Change (RFC) No. RFC-006 Rev. 2, 25235-000-T07-GAMM-00058), revisions to West Falls Church Yard and Shop.

The scope of work included in DTP Request for Change (RFC) No. RFC-007 Rev. 4, 25235-000-T08-GAMM-00005), passenger station feature revisions.

The scope of work included in DTP Request for Change (RFC) No. RFC-009 Rev. 1, 25235-000-T07-GAMM-00059), traction power design changes (including deletion of TPSS #7).

The scope of work included in DTP Request for Change (RFC) No. RFC-010 Rev. 1, 25235-000-T07-GAMM-00040), modifications to Wiehle Avenue Station and bus facilities.

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007, and the above-referenced RFCs.

General

The Subcontractor will provide a complete operable communications systems meeting all applicable performance and design requirements.

The Subcontractor shall assume total responsibility for the configuration of equipment, parts, interconnecting wiring, software, and other materials and services furnished. The scope of work includes coordination of the work with other Subcontractors working in the vicinity on other parts of this Project and with the government agencies having jurisdiction over the area of work or the existing roadways.

The Subcontractor scope includes:

- Public Address System.
- Closed Circuit Television System for stations and garages.
- Fire and Intrusion Alarm (FIA) System for stations, garages (GETS), ancillary structures, mini communications rooms and all their associated ancillary structures. The Fire and Intrusion System will include the capability to play recorded safety announcements over the Public Address System. A switch will be provided in the Kiosk so that the Station Manager can initiate the automatic announcement(s).
- Telephone System(s) for stations, garages and mini communications rooms. This includes the wayside emergency telephone system (ETS).
- Integrated Intercommunications System (IIS).
- Passenger Information Display (PIDS) System.
- Electrical Power Distribution System.
- Kiosk System.
- Carrier Transmission System (CTS).
- Fiber-Optic System (FOS).
- Mobile Radio System will make use of an Off-The-Air Radio Repeater system to provide Mobile Radio service in the tunnel sections, at stations and the garage.
- SCADA System-covered by the Train Control, Traction Power, Electrical and Mechanical Systems. The Communications Transmission System and Fiber Optics System will be utilized as the backbone for transmission of the data between the field source points and the OCC's (JGB and CTF).
- A 400-line Private Branch Exchange (PBX) (expandable to 1000-lines) is to be installed by the Subcontractor to accommodate the telephone circuits required at the Stations, Ancillary Buildings and the Emergency Trip Stations (ETS) located along the rail right-of-way.

All systems, equipment and services shall perform and be suitable for their intended purpose, in accordance with best commercial practices (as a minimum), and in compliance with all applicable specifications requirements.

Mini-Communications Room Locations

Current design requires seven (7) intermediate "Mini Communications Equipment Rooms" necessary to provide communications circuits for Automatic Train Control Remote Terminal Units and for telephones in ancillary buildings and the Emergency Trip Stations located along the rail right-of-way.

The seven remote "Mini Communications Equipment Rooms" are located at the following locations*.

- Next to the Train Control Room K56 (Dulles Junction) Civil Stationing approx. K488+33/N726+60 (N being the new Dulles Route)
- Next to the Train Control Room No. 1 (Plainfield St) Civil Stationing approx. 778+40.
- Next to the Train Control Room No. 2 (Baldwin Drive) Civil Stationing approx. 807+00.
- Next to the Train Control Room No. 9 (Wolf Trap) Civil Stationing approx. 1093+00
- Next to the Train Control Room No. 10 (Chathams Ford Rd.) Civil Stationing approx 1134+00.
- Next to the Train Control Room No. 11 (Hunter Mill Rd.) Civil Stationing approx. 1212+50.
- Next to the Train Control Room No. 12 (Sunset Hill Rd.) Civil Stationing approx. 1250+00.

*As modified by the above-referenced RFCs. Communications systems and equipment shall be installed in enclosures furnished by others, for delivery and installation on site as pre-fabricated modular units.

West Falls Church Yard

The following installation work will be required at the existing West Falls Church Yard*:

- Two talk-back stations
- PA speakers for new storage tracks.
- Radiax Antenna for sound cover box. (as required).
- Telephones, FIA and PA Speakers in new Traction Power Substation. Fiber-Optic Cable Installation.
- OC-12 Fiber Optic terminal for CTS channel banks.

*As modified by DTP Request for Change (RFC) No. RFC-006 Rev. 2, 25235-000-T07-GAMM-00058), revisions to West Falls Church Yard and Shop.

Installation of two new 96-Fiber Optical Cables shall be installed from the Wiehle Avenue Passenger Station to the Existing S&I Shop Building Communications Equipment Room and extended to the West Falls Church Passenger Station, using the existing tunnel. At the West Falls Church Station these fibers shall be terminated in two new 96 Fiber-Optic Splice/Patch Panels.

Mobile Radio System Installation

A new mobile radio subsystem will be required to provide and install communications in the tunnel section at Tysons Central 7 Passenger Station. The new mobile radio subsystem will be required to provide for radio communications on 10 WMATA UHF channels, as well as Fairfax County Emergency Services (Fire, Police, and EMS). The mobile radio subsystem will be an "Off-The-Air Radio Repeater System", although alternate solutions could be considered. If testing reveals that the structure has "dead spot" lapses in radio coverage from the existing WMATA simulcast radio

system, a similar system may also be required at Stations and the Wiehle Avenue Parking Structure.

Work Not Included

Installation of Fiber-Optic Cable from the West Falls Church Station to the Jackson Graham Building.

Enclosures for remote communications rooms will be furnished by others.

Pads for receiving pre-fabricated remote communications rooms will be furnished by others.

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document*:

Spec No.	Specification Title
16700	Communications for Rail Passenger Station Associated Parking Structures
16701	Definitions of Communication System Terms
16702	Communication Abbreviations
16703	Communication Standard Specifications -Engineering Services
16704	Communication Standard Specifications -Installation
16705	Communication Standard Specifications -Equipment and Material
16706	Communication System Submittals and Services
16707	Communications System Quality Assurance and Testing
16708	Correction of Communication Systems Deficiencies
16710	Communications Grounding
16715	Communications Electrical Power Distribution
16721	Communications Telephone System
16728	Communications Integrated Intercommunications System
16729	Communications Passenger Information Display System
16731	Communications Fire and Intrusion Alarm System
16733	Communications Kiosk System
16771	Communications Carrier Transmission System
16774	Local Area Network/Wide Area Network (draft included in DL-2)
16776	Communications Fiber Optic System
16791	Communications Mobile Radio System
16820	Communications Public Address System
16851	Communications Passenger Station Closed Circuit Television System
16866	Interface Criteria and Responsibilities

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* As modified by DTP Request for Change (RFC) No. RFC-003 Rev. 1. 25235-000-T07-GAMM-00013). changing to use of LAN/WAN technology.

C9
Fire Suppression System

Scope of Work

Subcontractor shall furnish all plant, labor, materials, tools, supplies, equipment, transportation, supervision, permits, and services, and perform all operations necessary and required to satisfactorily complete the work. The basic layout, dimensions, and finishes of the fire suppression system shall be as shown on the 100% PE drawings and as modified by:

Open Item A-26b, replacing the FM-200 sprinklers with the dry sprinkler system used by WMATA on escalators.

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007.

A. General

The scope of work includes coordination of the work with the other Subcontractors working on other parts of this Project in the same area (such as stations and supporting facilities) and with the government agencies having jurisdiction over the area of work or the roadway. The scope also includes coordination of the work with utility companies installing or relocating utilities to serve the Project.

The Fire Suppression systems, including all Siamese fire-department connections, dry fire line, check valves, automatic air vents, drain valves, angle hose valves, fittings, and signage, shall be in accordance with WMATA Manual of Design Criteria, WMATA Specification 13905, Referenced Drawings, applicable NFPA Standards, including NFPA 130, and local and state Authorities Having Jurisdiction.

The Subcontractor shall provide the following the following:

B. Dry Standpipe System

Provide complete fire suppression system, including final design for the following:

- Station platform areas and fire equipment cabinets located in the five stations, including branches out to the Siamese connections located at station entrances.
- Tunnel between Tysons Central 123 and Tysons Central 7 stations,
- ~~Wiehle Ave parking structure open areas~~

100% Preliminary Engineering drawings describe the Fire Protection (FP) system as follows*:

- FP Riser diagrams show dry standpipe system (w/o depiction of all components).
- FP Plan drawings show dry standpipe system where required. Plan drawings do NOT show branch-off to sprinkler piping. Plans to show Fire extinguisher locations; however

“extinguishers to be furnished and installed by the Authority”. The term “Authority” refers to the Washington Metropolitan Area Transit Authority (WMATA).

*As modified by DTP Request for Change (RFC) No. RFC-010 Rev. 1, 25235-000-T07-GAMM-00040), modifications to Wiehle Avenue Station and bus facilities.

C. Wet Sprinkler System

Provide complete fire suppression system, including final design for the following:

- Ancillary/service room spaces within the station proper, and
- West Falls Church Yard Shop Annex
- ~~Wiehle Ave parking structure lower levels (that are sufficiently enclosed along the perimeter wall):~~

100% Preliminary Engineering Drawings describe the Fire Protection (FP) systems as follows:

- FP Riser diagrams show piping branch-off (from incoming water service) for sprinkler system piping (sprinkler systems not shown in their entirety).
- Rooms requiring sprinkler coverage include the Cleaner’s Room; Toilet Rooms and all ancillary rooms used for operational / office areas.

Work not Included

1. Detection and alarming devices and associated devices and appurtenances.
2. Intrusion detection and associated devices and appurtenances (i.e. intrusion of fire equipment cabinet)
3. ~~WFC Yard Track Loop Enclosure and S&I Building Fire Suppression Systems~~

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document:

Spec No.	Specification Title
13905	Fire Protection, Suppression and Alarm

C10
Elevators and Escalators

Scope of Work

Furnish all plant, labor, materials, tools, supplies, equipment, hoisting services, transportation, supervision, and services, and perform all operations necessary and required to satisfactorily complete the work, which shall include, but not be limited to, the activities described below. The basic layout, dimensions, and finishes of the elevators and escalators shall be as shown on the 100% PE drawings and as modified by:

1. Open Item A-19, adding a second elevator at the noted entry pavilions to satisfy ADA guidelines.
2. Open Item A-29, providing an elevated mezzanine at the Tysons Central 123 station.

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007.

A. General

All QA/QC requirements stated in the specifications are included in this Scope of Work.

The scope of work includes coordination of the work with others working on other parts of this Project in the same area and with the government agencies having jurisdiction over the area of work or the roadway.

Interfacing and coordination planning with other work, labor resources, equipment resources, estimated durations for each sequence of work, and exchanging ideas for execution of the work.

B. Elevators

1. Hydraulic

Design, furnish, and install complete hydraulic passenger elevator systems including elevator cars, hoistway equipment, hydraulic piping, valves, cylinders, machinery, control systems, indicators, signs, elevator pit ladders and finish work in the vicinity of the hoistway doors as shown on the Contract Drawings and as specified.

Note: This specification is applicable for both types of hydraulic elevators, except that there are no jacks and pistons, and related components, for the holeless elevators.

2. Traction

Design, furnish, and install complete traction passenger elevator systems including elevator cars, hoistway equipment, machinery, control systems, indicators, signs, elevator pit ladders and finish work in the vicinity of the hoistway doors as shown on the Contract Drawings and as specified.

C. Escalators

Provide complete design, fabrication, and installation of heavy-duty escalators, designed specifically for heavy rail transit system use. The location, quantity, sizes, and types of escalators to be used, and various other work required, shall be as shown on the Contract Drawings and as specified.

Work Not Included

Elevators

- Earthwork for excavation to accommodate plunger-cylinder assembly (does not apply to Traction Elevators)
- Cast-in-place Concrete for elevator pits and grating sills
- Concrete Formwork for hydraulic elevator cylinder wall casing
- Unit Masonry for masonry hoistway enclosures, building in and grouting hoistway door frames and grouting sills
- Metal Fabrications for divider beams and supports for entrances and guide rails
- Waterproofing for water proofing of elevator pit
- Fire suppression system
- Heating, ventilating and/or air conditioning of elevator machine room.
- Electrical service to elevator equipment, fire alarm systems and communications systems
- Hoist beam
- All remote conduit and cabling for AEMS system, including to the AEMS RTU location
- Grounding buss bars in each machine room and pit
- Disconnect switches for car lights and mainline power, circuit breakers and panelboards, and pit receptacles and lights
- Temporary protection of doorways

Heavy-Duty Escalators

- Cast-in-place Concrete for setting sleeves, inserts and anchorage devices to concrete.
- Structural Steel for attachment plates, angle brackets and other preparation of structural steel to support escalator trusses.
- Access Doors and Frames for wall and ceiling access panels and access doors in escalator enclosures.
- Electrical service to escalators.
- Exterior cladding work on the escalators

- Fire suppression system
- Temporary protective structure and covering for the escalators

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document:

Spec No.	Specification Title
14200	Hydraulic Elevators
14220	Holeless Elevators
14240	Traction Elevators
14300	Heavy Duty Escalator

NOTE: Elevator and Escalator layouts for Electrical work for Tysons West and Tysons Central 123 stations are similar to Wiehle Avenue station layouts (Drawings N13-E-501 and N13-E-502).

C11
Spare Parts

Scope of Work

The requirements for spare parts are provided in the Design-Build Contract, Division 01, Section 01210.

C12
WFCY-01 Addition to the S&I Building

This item is deleted from the Design-Build Contract in its entirety per Contract Change Order Five (005).

Scope of Work

~~During Preliminary Engineering, the S & I Building expansion was eliminated from the Project Scope of Work shortly after issue of the 50% PE plans (composite 15% of final design). The S&I Building expansion has now been reinstated into the Project scope of work as defined in Open Item Package WFC 01, Volume III Basis of Open Items Pricing (FFP) dated February 8, 2007.~~

A. General

~~The scope of work is to design, furnish, and construct an expansion to the existing WMATA West Falls Church S&I Building. This scope of work describes the design features of the expansion.~~

B. Mechanical and Equipment

~~The expansion will add eight 25-ton truck and body hoists for repair of four married pairs of railcars. The hoisting equipment is located in a pit under the operating floor tracks at an elevation which matches the basement of the existing building. One 25-Ton Bridge Crane will serve the building expansion. Five turntables are provided to facilitate the movement of railcar trucks to the repair area in the existing facility. One of these five turntables is located in the existing building.~~

~~The building expansion will be heated using electric heaters and will be ventilated similar to the existing facility. The fire-suppression system will be extended to cover the partial basement, the tunnel that brings delivery trucks to the basement level at the west end of the facility, and the operating floor. An FM200 system will be provided to serve the AC Switchboard room in the roof level penthouse. The existing compressed-air system will be extended into the new expansion area. Plumbing will be provided for roof and floor drains. No new restroom facilities are planned for the expansion.~~

C. Structural and Architectural

~~The expansion will abut the existing S&I Building. Two new roll-up doors will be installed where louvers currently exist. In addition, two new personnel doors will also be installed. Other than these doors, the existing exterior wall will be left in tact to allow the facility to continue to operate while construction is going on.~~

~~The building will be a 50-foot by 400-foot facility with a partial basement and a penthouse room to house the AC Switchboard equipment. The existing dock in the basement will be maintained for truck deliveries. A ramp and tunnel on the west side of the building will provide access to the dock. Pits will be constructed in the basement to house the hoist equipment. A walkway along the north side of the basement will be provided for personnel and maintenance access.~~

~~The exterior of the building will be concrete block with a brick facade to match the existing structure. The roof will be a single ply membrane type roof to match the existing building's recent reroofing. Skylights will be provided in the expansion roof. Maintenance stairways and ladders will be provided to the roof. There is no plan to retrofit the existing portion of the building for ADA compliance or modernization. No new operator or craft locker rooms, toilet facilities or lunch rooms have been included.~~

~~The building will have a cast in place concrete basement with a steel frame above the operating floor. The building foundations will be pile supported in order to minimize settlement with the existing building. The current arrangement has track crossing the building joint with the existing building. It is expected that support of the hoist equipment will be integral with the floor and will also have piling for support.~~

~~A retaining wall will be provided to allow for the roadway relocation, resulting in extensive grading work. This retaining wall will be approximately 600 feet long and 21 feet high at its tallest point~~

D. Civil

~~The expanded building will be constructed in the middle of the existing roadway. This will require relocation of utilities which will be performed by others. The location also requires the relocation of the roadway to the south of the existing roadway, including a sidewalk along the south side of the expanded building and a storm drainage system for the roadway. A portion of an existing storm drain which enters the south side of the WFC Shop & Yard site may need to be relocated to allow the construction of this retaining wall.~~

~~The roadway at the west end of the expansion will be modified to allow trucks to turn around to back down the ramp and into the tunnel.~~

~~Twelve new parking spaces will be provided adjacent to the Salt Dome for added personnel at the WFC Shop & Yard from the Project.~~

~~The current fence will be extended around the new retaining wall on the south side of the property.~~

E. Trackwork

~~Two new tracks will be added to serve the expansion. This work is excluded from this scope of work for the Shop Building expansion. It is included with the Addenda to the Trackwork Installation Scope of Work.~~

F. Traction Power

~~The new expansion will require DC Traction power to the new track outside the building that will be provided through the yard traction power distribution system, and to the stinger and contactor systems for the purpose of movement and testing/inspect of the rail cars within the expansion. The existing 2MW substation will be replaced with a 3MW substation in the basement of the existing~~

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~~S&I Building and a new DC switchboard will be installed to supply power to the stingers and contactor system. New wiring will be routed to the stinger system and to the DC power outlets on the operating floor of the expansion. The heating system will be provided for two new tracks.~~

~~Two DVP manholes will be relocated by others to make room for the new expansion.~~

G. Electrical

~~A new AC Switchboard room will be provided in a penthouse on the roof at the west end of the expansion. 34.5 kV service will be fed to this room from the existing AC Switchboard room in the basement of the existing S&I Building. AC power will be fed to the Motor Control Centers that house the starters for the process equipment and the other mechanical equipment. The new expansion will include lighting similar to the existing building and will have AC power outlets per code.~~

H. ATC / Communications

~~The expansion will include the modifications to the Automatic Train Control signaling system for the new track switches, signals, snow melting equipment, and track circuits.~~

~~The communications systems such as PA, telephone and fire alarm that serve the existing building will be extended to cover the expansion.~~

I. Geotech

~~The Contractor will perform additional soils borings to confirm the soils conditions in the area of the building expansion and the retaining wall. Final design of the foundation systems for both areas will be determined after the results of the soils borings are available.~~

J. Permits

~~The Subcontractor shall be responsible for obtaining all permits necessary to complete this scope of work, including but not limited to all construction activities, fire safety, systems permits, and the occupancy permits required to open and operate the facilities.~~

K. Construction

~~The construction work includes furnishing all permits, plant, labor, materials, tools, supplies, equipment, transportation, supervision, services, and perform all operations necessary and required to install, where called for on the plans, those elements specified on the final design documents. All work will be in accordance with the requirements in the Design Build Contract, Division 01.~~

Work Not Included

1. Relocation of Utilities

2. New Utility Feeds to S&I Building

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Spec No	Specification Title
Division 2	
02220	Demolition
02320	Grading, Excavating and Backfilling
02585	Underground Electrical and Communications Distrib. Systems
Division 3	
03000	Concrete
03100	Concrete Formwork
03200	Concrete Reinforcement
03300	Cast in Place Structural Concrete
Division 4	
04050	Mortar, Grout & Masonry Accessories
04215	Brick Masonry
04220	Concrete Unit Masonry
Division 5	
05120	Structural Steel
05210	Steel Joists
05310	Metal Decking
05500	Miscellaneous Metals
Division 7	
07210	Building Insulation
07410	Metal Wall Panels
07553	Self Adhering Modified Bituminous Membrane Roofing
07600	Flashing and Sheet Metal
07730	Roof Accessories
07815	Sprayed Fireproofing
07841	Fire Stopping
07900	Seals and Sealants
Division 8	
08110	Hollow Metal Doors and Frames
08331	Overhead Coiling Doors
08360	Upward Acting Sectional Doors

~~08625 Metal Framed Skylights~~

~~08710 Finish Hardware~~

~~Division 9~~

~~09920 Field Painting~~

~~Division 13~~

~~13905 Fire Protection, Suppression and Alarm~~

~~Division 15~~

~~15075 Identification of Mechanical Equipment and Piping~~

~~15080 Insulation~~

~~15725 Ventilating Units and Heating Equipment~~

~~15810 Ductwork~~

~~15825 Sound Attenuators~~

~~15830 Fans~~

~~15900 Control Equipment~~

~~15950 System Balancing and Testing~~

~~Division 16~~

~~16060 Grounding and Bonding~~

~~16120 Wire, Cable and Busways~~

~~16125 Wire Connection Accessories~~

~~16130 Raceways, Boxes and Cabinets~~

~~16145 Wiring and Control Devices~~

~~16225 Motors~~

~~16270 Transformers~~

~~16320 High Voltage Switchgear~~

~~16425 Motor Starters and Control Centers~~

~~16435 Low Voltage Switchgear and Switchboard~~

~~16440 Circuit Breakers, Panel boards and Load Centers~~

~~16525 Lighting Fixtures and Mounting Poles~~

~~16601 Automated Energy Management System (RTU and Interface)~~

C13
Traction Power Supply

Scope of Work

The scope of work includes responsibility for design, fabrication, supply, delivery and testing of the Traction Power System (TPS) inclusive of 11 (changed to 10 by Open Item A-02) Traction Power Substations (TPSS), 4 (changed to 3 by Open Item XX-6) Tie Breaker Stations (TBS), improvements to an existing TBS and other associated TPS equipment all in compliance with the specifications referenced below and the 100% PE drawings and as modified by:

- Open Item A-02, deleting TPSS #9.
- Open Item A-08, modifying feeder cable length.
- Open Item DL-3, modifying the WMATA DC Switchgear specification (16341).
- Open Item XX-6, relocating the Wiehle Avenue TPSS and deleting TBS #5.
- The scope of work included in DTP Request for Change (RFC) No. RFC-001 Rev. 1, 25235-000-T07-GAMM-00011), changing to prefabricated modular traction power design.
- The scope of work included in DTP Request for Change (RFC) No. RFC-003 Rev. 1, 25235-000-T07-GAMM-00013), changing to use of LAN/WAN technology.
- The scope of work included in DTP Request for Change (RFC) No. RFC-004 Rev. 1, 25235-000-T07-GAMM-00014), changing to microprocessor-based automatic train control.
- The scope of work included in DTP Request for Change (RFC) No. RFC-006 Rev. 2, 25235-000-T07-GAMM-00058), revisions to West Falls Church Yard and Shop.
- The scope of work included in DTP Request for Change (RFC) No. RFC-009 Rev. 1, 25235-000-T07-GAMM-00059), traction power design changes (including deletion of TPSS #7).

These changes have been documented as part of the Open Items packages, Volume III – Basis of Open Items Pricing (FFP) dated February 8, 2007, and the above-referenced RFCs.

A. General

Scope includes responsibility for fabrication, delivery of equipment, development of detailed handling, and installation procedures per the integrated design and all training, maintenance and operation manuals for the supplied equipment; support to others during installation and testing of the equipment and during the termination of all wiring to the equipment; and on-site technical

assistance services for consultation and monitoring of the work for compliance with the approved installation and handling procedures.

Remote TPSSs and TBSs will be furnished as pre-fabricated pre-wired modular units, delivered and placed on site. The scope also includes detailed design and fabrication and MEP fit-out of enclosures for adjoining remote TCRs and Communications rooms, and delivery of these to the TCR and Communications subcontractors. The scope of work includes coordination of TCR and Communications room requirements into the enclosure design.

Technical assistance services will be required for the following activities:

- TPSS equipment installation
- TBS equipment installation
- Equipment Control Cable terminations and testing

Subcontractor will perform the following tasks:

- Field testing of the equipment
- Commissioning and startup testing

B. Additional Traction Power Scope of Work

Additional Traction Power material and equipment is to be procured by the Contractor under this scope of work. This includes but is not limited to the following bulk materials required for the Traction Power System installation:

- Conduit and cable trays
- Grounding and Bonding
- Wire and Cable
- 2000V Shielded Cable
- Contact Rail Heating System
- Positive/ Negative Cables, Jumper Cables, contact rail heaters, clips, bolts and other hardware needed to make cable and/or other attachments to the contact rail

Work Not Included

~~Post-delivery The installation and interconnection wiring of the equipment pre-fabricated modules on site will be by others per the installation and handling procedures prepared by the Subcontractor.~~

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006). Applicable specifications included as part of this document*:

Spec No	Specification Title
16051	Scope Of Services for Traction Power
16052	Basic Material for Traction Power
16053	Operation and Maintenance Training For Traction Power
16260	Uninterruptible Power Supply
16261	Rectifier Transformer Unit for Traction Power
16270	Transformers
16291	Local Annunciator Panel for Traction Power
16293	Mimic Panel for Traction Power-Storage Yard
16322	High Voltage Ac Switchgear (34.5kv) for Traction Power
16341	Metal Enclosed Dc Switchgear for Traction Power
16440	Circuit Breakers, Panel boards and Load Centers
16441	Drainage and Negative Switchboard for Traction Power
16451	Substation Busway for Traction Power
16601	Automated Energy Management System (RTU and Interface)

*As modified by the above-referenced RFCs

C14
Automatic Train Control Supply

Scope of Work

The Scope of Work includes the design, equipment supply, witness, testing and integration for the Automatic Train Control Systems. The design shall be based upon the requirements described in the 100% Preliminary Engineering plans, and Technical Specifications as referenced below, as modified by Contract Change Order Four (004) to revise to the scope of work in DTP Request for Change (RFC) No. RFC-004 Rev. 1. 25235-000-T07-GAMM-00014), changing to microprocessor-based automatic train control.

Remote TCRs will be furnished as pre-fabricated pre-wired modular units, delivered and placed on site. The detailed design, fabrication and MEP fit-out of remote TCR enclosures, and their delivery to the ATC subcontractor's facility will be by others. The scope of work includes provision of remote TCR layout and room requirements, and design coordination with others performing the TCR enclosure final design and fabrication.

The scope includes:

A. Design

The Subcontractor will be responsible for all aspects of the ATC system design, including:

- Block Design
- Track Circuits, Derails, Signal and Marker Coil Layouts for Mainline and Yard
- Switch Machines for Yard
- Speed Command Control and Software-Vital Processor or relay Based with AF Track Circuits
- Interlocking Control & Operation, Routing & Locking and Software – Vital/Non-Vital Processor Based
- Temporary and Final Staging / Cutover plans for the Orange line interface and West Falls Church Yard, including designing the interfaces at West and East Falls Church Stations (A new TCR will be provided for control of the junction).
- Station Control – STAP, Processor Based
- Remote Terminal Units, Non-vital processor based with TCP/IP protocol, Scan Sheets – SCADA /DTS
- Interlocking Local Control Panels and one (1) dispatchers panel to be located at Wiehle Avenue station.
- Wayside Cable Plans
- Track Plans, (double line)
- Software packages, Control room circuit drawings (detailed book of plans), diagrams, equipment layouts, manuals (maintenance and training)
- Training to others
- TCR equipment power requirements (Load Calculations)
- TCR room layouts

- Software equivalents

B. Submittals

In accordance with the requirements of the Design-Build Contract, Division 1, the Subcontractor will provide the specified submittal, including:

- Design drawings/software
- Acceptance Procedures – new equipment to WMATA (as required)
- First Article Configuration Inspection (FACI)
- Factory Test Procedures
- Factory Test (100%) design/software – must be substantially approved prior to onset of Factory Acceptance Tests (FAT).
- Factory Test Results – Marked drawings and data sheets
- As-shipped – to include comments of FAT results.
- Field Test Procedures
- Field Test design/software– must be approved (as marked) for onset of test – to include As-shipped comment resolution.
- Field Test Results – Marked drawings and data sheets
- Record Deliverables (as-built drawings/software.)

C. Equipment

The Subcontractor will provide the hardware and software necessary to implement a fully-functional ATC System, including:

- Wayside equipment – Impedance bonds, Switch machines, Signals, Marker coils, Interlocking Track Circuit Loops. With all appropriate hardware, (i.e., copper connection plates for shunt bars, mounting brackets, mounting plates, nuts & bolts), as required to install the equipment.
- Train Control Room equipment racks and equipment support hardware (brackets, braces, etc.), power supplies, ground fault detectors, Local Control Panels (interlocking locations) wire and inter and intra-rack cabling, terminals/pins for rack wiring and plug couplers, all special tools required to completely install and configure the systems, sub-systems and equipment provided, and all miscellaneous hardware to mount and secure the signaling equipment within the supplied racks.
- Wayside equipment will be assembled as completely as possible based on coordination with the installer. As an example, marker coil assemblies are expected to be shipped complete with the coil and tuning units attached to the ramp enclosure and designated (marked) with their frequency, type, group or sub-group.
- Train Control Rooms will be assembled as completely as possible, or as practical prior to shipment from the factory. Room assembly and tests shall be coordinated, so as to facilitate delivery directly to the field location where the equipment is to be installed. All required rack to rack wire, rack to rack cables and rack to control panel cables in adequate amounts and lengths to be provided and designated with each location. All tagging will be

completely verified prior to shipment. Remote TCRs will be furnished as pre-fabricated pre-wired modular units, delivered and placed on site.

- The Subcontractor will deliver all equipment to the jobsite, and will pick and place modules onto pads provided by others.

D. Test & Integration

The Subcontractor will provide all testing activities, with certified data submittals, as described in the Contract Specifications. Provide on-site, test equipment and tools required (common) to support the testing activities in an efficient manner. Identify and coordinate with Contractor all special test equipment and tools required.

1. Factory Testing and Inspection

- Component, board, module, up to the fully assembled unit level, i.e. bonds, markers signals, switch machines.
- TCR factory test will verify all subsystems, as complete as possible.
- Jobsite Inspection/Quality Assurance – the manufacturer's field signal engineer will participate in the inspection of all equipment upon delivery.

2. Jobsite Testing and Inspection

- Perform testing per the Contract Specifications for Grounding/isolation, Power-off, Power-on, Breakdown, Module level, Room-to-wayside, Interlocking Plant Operation, Room-to-room, Dynamic, Integration tests, through Pre-Revenue activities.
- Identify all support required by others for each type of test on a per location basis.
- Identify the expected number of train sets and consist sizes needed to fulfill the testing requirements.
- Perform preliminary and temporary work to reconfigure the control circuits between West Falls Church and East Falls Church Stations to provide safe revenue operation of WMATA trains while allowing for the heavy construction activities. Assist in the development of detailed sequencing of the work. Early items to be installed will be the crossover, followed by the turnouts and Rt. 66 flyovers. The staging of this work is of prime importance, with the goal to get single tracking reduced from 12,000 ft to 2000 ft. as quickly as possible.
- Responsible for developing a cut-over plan to describe in detail the proposed methods for accomplishing the temporary and permanent integration of the Dulles Junction (N and K lines). Work shall anticipate a minimum of three stages; each with multiple phases. The stages consist of the K-line double crossover and the inbound and outbound turnouts to the N-Line.
- The Subcontractor will provide temporary work and detailed staging/cutover plans and procedures as necessary, and develop all necessary ATC-related WMATA Site Specific Work Plans (SSWP).
- Preliminary – install TCR equipment as necessary to safely tie existing line and traffic circuits through K98 Dulles Junction TCR and verify-, deliver to site equipment to provide point detection of all six switches, design bonding scheme to allow revenue operations

through the area with a minimal impact. Point detection must be provided and certified safe for each switch immediately upon installation with visibility at OCC via the existing DTS.

- Test and obtain certification of double crossover complete and reconfigure to allow operation of K98 as an emergency crossover.
- Provide certified safe point detection for N-Route turnouts immediately upon installation.
- Test interlockings and obtain certification. Based on the time frame, the N-Route interlockings may need to be disabled to only provide the required point detection.
- All track circuits that are located in the Dulles Junction area of control will be controlled from the Fisher Street TCR; this requires transitioning existing bonds to the new TCR.

E. West Falls Church Yard

At West Falls Church Yard, ~~8-5~~ new storage tracks are to be added, along with a new connection track to the N-line. The Scope includes furnishing and testing all the equipment required to modify the Yard as shown on the 100% Preliminary Engineering Drawings, as modified by the above-referenced RFC, including:

- Upgrading the AIRINC/RAILCOMM Yard Interlocking Control System.
- The Yard is in use 24 hours a day 365 days a year and it must be operational to the maximum extent possible during the modifications required by this Contract. The Subcontractor will provide temporary work and detailed staging/cutover plans and procedures as necessary, and develop all ATC related WMATA Site Specific Work Plan (SSWP).
- All work in the West Falls Church Yard is subject to WMATA work restrictions

Work Not Included

1. Installation of the ATC equipment in other than remote pre-wired pre-fabricated TCRs.
2. Fabrication of remote TCR enclosures
- ~~3.~~ Buildings and facility structures.

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006). Applicable specifications are also included as part of this document*:

Spec No.	Specification Title
16901	DEFINITION OF ATC TERMS
16902	ATC ABBREVIATIONS
16903	ATC-INITIAL METRORAIL SYSTEM
16904	CURRENT AUTOMATIC TRAIN CONTROL SYSTEM
16905	ATC TRANSIT VEHICLE CHARACTERISTICS
16906	DETERMINATION OF PAYMENT FOR ATC WORK
16910	BASIC WAYSIDE ATC REQUIREMENTS
16911	SCOPE OF ATC WORK
16912	ATC SUBMITTAL REQUIREMENTS
16913	ATC BLOCK DESIGN
16914	ATC-ENVIRONMENTAL REQUIREMENTS
16915	BASIC ATC EQUIPMENT REQUIREMENTS
16916	BASIC CIRCUIT REQUIREMENTS
16917	BASIC INTERLOCKING REQUIREMENTS
16918	SPECIAL ATC REQUIREMENTS FOR SPECIFIC LOCATIONS
16919	ATC SYSTEM SAFETY PROGRAM

16921	ATC POWER DISTRIBUTION SYSTEMS
16922	ATC - LIGHTNING/SURGE PROTECTION AND GROUNDING SYSTEMS
16923	ATC MAINTENANCE TELEPHONE SYSTEM
16924	ATC-NON-VITAL ATO&ATS PROCESSOR SYSTEMS
16925	ATC-DATA TRANSMISSION SYSTEM
16926	ATC MICROPROCESSOR SYSTEM FOR NON-VITAL INTERLOCKING FUNCTIONS
16928	ATC-INTERLOCKING VITAL PROCESSOR SYSTEMS
16929	SPEED COMMAND PROCESSOR SYSTEM
16934	AUTOMATIC TRAIN APPROACH WARNING SYSTEM
16941	BASIC ATC ELECTRICAL AND ELECTRONIC COMPONENT REQUIREMENTS
16942	ATC - PRINTED CIRCUIT CARDS
16943	ATC - VITAL RELAYS
16944	ATC - NON-VITAL RELAYS AND TIMERS
16945	ATC - PLUG BOARDS AND CABINETS FOR RELAYS AND PC CARDS
16946	ATC - TRANSFORMERS
16947	ATC - GROUND DETECTORS
16948	ATC - PLUG CONNECTORS
16949	ATC - SIGNAL WIRE AND CABLE
16951	ATC - TRANSFER AND BYPASS EQUIPMENT
16952	ATC - DC POWER SUPPLIES
16953	ATC - ATP TRACK MODULES
16954	ATC - SWITCH AND LOCK MOVEMENTS
16955	ATC - TRACK AND ALARM INDICATION PANELS
16956	ATC - INTERLOCKING CONTROL PANELS
16957	ATC - INTRUSION DETECTION WARNING SYSTEM (IDW)
16961	ATC - AUDIO FREQUENCY TRACK AND LOOP CIRCUIT LAYOUTS
16962	ATC - IMPEDANCE BOND LAYOUTS
16963	ATC - POWER FREQUENCY TRACK CIRCUIT LAYOUTS
16964	ATC - TRACK SWITCH OPERATING LAYOUTS
16965	ATC - SIGNAL LAYOUTS
16966	ATC - WAYSIDE PUSHBUTTON LAYOUTS
16967	ATC - MARKER COIL LAYOUTS
16968	ATC - TRACK BONDING LAYOUTS
16969	ATC - SNOW MELTER LAYOUTS
16971	ATC - RACKS AND CABLE TRAYS
16972	ATC - JUNCTION BOXES
16973	ATC - CONDUIT
16974	ATC - LOCK SAND KEYS
16975	ATC - FOUNDATIONS
16976	ATC - WAYSIDE SIGNS
16977	ATC - TAGGING AND MARKING
16978	ATC - MISCELLANEOUS COMPONENTS AND MATERIALS

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16979	ATC – SURFACE TRENCH
16981	BASIC ATC TEST AND INSPECTION REQUIREMENTS
16982	ATC – PRELIMINARY AND INTERLOCKING TESTS (LEVEL A)
16983	ATC – TRAIN SEPARATION TESTS (LEVEL B)
16984	ATC – ATO AND LOCAL ATS TESTS (LEVEL C)
16985	ATC – DTS INTERFACE TESTS (LEVEL D)
16986	ATC – MISCELLANEOUS TESTS (LEVEL E)
16987	ATC – SYSTEM LEVEL TESTS (LEVEL F)
16988	ATC – QUALITY ASSURANCE
16991	ATC – DRAWINGS AND TRACINGS
16992	ATC – INSTRUCTION MANUALS
16993	ATC – TRAINING COURSES

*As modified by the above-referenced RFC

C15
Cathodic Protection
and Corrosion Control Systems

Scope of Work

The scope includes the design, supply and installation of necessary corrosion control and stray current protection system. The design/ engineering and installation shall meet the requirements of the WMATA Manual of Design Criteria (release 6 dated November 2003), and the 100% PE drawings and specifications identified below, as modified by the following:-

- The scope of work included in DTP Request for Change (RFC) No. RFC-001 Rev. 1, 25235-000-T07-GAMM-00011), changing to prefabricated modular traction power design.
- The scope of work included in DTP Request for Change (RFC) No. RFC-003 Rev. 1, 25235-000-T07-GAMM-00013), changing to use of LAN/WAN technology.
- The scope of work included in DTP Request for Change (RFC) No. RFC-004 Rev. 1, 25235-000-T07-GAMM-00014), changing to microprocessor-based automatic train control.
- The scope of work included in DTP Request for Change (RFC) No. RFC-006 Rev. 2, 25235-000-T07-GAMM-00058), revisions to West Falls Church Yard and Shop.
- The scope of work included in DTP Request for Change (RFC) No. RFC-009 Rev. 1, 25235-000-T07-GAMM-00059), traction power design changes (including deletion of TPSS #7).

The Subcontractor shall:

Familiarize itself with the proposed line alignment and the type of structures involved the Project including 100% Preliminary Engineering drawings and above-referenced RFCs, information regarding the route alignment and the utilities located near and within the Project limits.

Coordinate with the area utilities and operators of underground pipelines to collect information regarding the underground facilities associated with this Project and any measures the utility companies may have in place for protection of these facilities from corrosion and stray currents.

Before the start of track or traction power construction (by others), take measurements of any stray current flowing through the existing structures located near the alignment and the underground facilities of the utility companies for the establishment of base line stray current levels for future reference.

Perform a survey to update the base-line stray current levels to reestablish "bench mark" data regarding various structures/ utilities-to-earth potentials for reference just prior to energization of the Project.

Upon energization of the line and commencement of simulated operations, perform measurements of stray current to confirm that leakage is not occurring at levels above those permitted. Upon completion of the stray current survey, provide a report listing stray current sources, test procedures, utility coordination details, test results, and all data and recordings.

Collect information of all underground facilities being installed under this Project.

Perform necessary soil resistivity and chemical analysis of such locations to determine protective measures that may be necessary to safeguard the underground facilities from corrosion resulting from the soil and atmospheric conditions.

Perform soil resistivity measurements at locations of intended ground mats for traction power substations, tie breaker stations and passenger station AC Switchboard Rooms. This information is required at different soil depths to optimize ground mat designs at each location.

Prepare necessary design drawings, indicating locations for the test boxes for measurement of stray currents, installation of cathodic protection equipment and detail for bonding of underground and all reinforced structure for stray current protection. Note the locations of metallic piles or pile casings and other metallic structures and prepare/implement mitigation measures.

Install the approved stray-current and corrosion-control systems; monitor the bonding of rebar/structures during construction in accordance with the requirements of the Design-Build Contract; and perform necessary testing of the completed Project.

Provide cathodic protection equipment for implementation of the proposed corrosion control and stray current protection systems.

Prepare necessary calculations, construction drawings, and specifications for installation of the proposed stray current and corrosion control protection system for review and approval by Contractor. The calculations, installation drawings, specification must be certified by an approved cathodic protection and corrosion control engineer approved for work in Virginia.

Furnish and install the stray current and corrosion control protection systems and perform necessary testing of the completed system.

Perform rail-to-earth, rail-to-rail, and insulated-joint resistance testing following the final installation of trackwork.

Perform testing for continuity for all Project structures.

Prepare cathodic protection directory for the as-built section designs.

Attend meetings, conferences and/or provide recommendations in response to questions and coordinate with the utility companies.

Perform post operational survey and tests after the traction power system is under revenue operation and submit a report including recommendations to mitigate any situations that may arise after the Installation.

Respond to comments on the submitted report, revise and resubmit a final report.

Elements of the Project requiring cathodic protection/testing/monitoring includes, but not limited to:

- Underground Piping including
- Retaining Walls, Cover Box, S&I Building, Platforms, Tunnels
- ~~Track~~ Track-to-Earth Resistance Measurement
- Cut & Cover Tunnel, WFC Yard, East & West Portal Tysons Tunnel
- Cathodic Protection Support-Bridges
- Hydraulic Elevators Matrix
- Expansion Joints in the Mined Tunnels

Specifications and Standard Drawings

The following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Note: Related Work Specifications are available upon request.

Spec No.	Specification Title
13110	Stray Current and Cathodic Protection
13115	Corrosion Control System Testing
16060	Grounding and Bonding

Standard Drawings

ST-S-007
ST-S-021
ST-S-022
ST-S-023
ST-E-301
ST-E-302
ST-E-303
ST-E-304

C16
Contact Rail and Hardware Supply

Scope of Work

The Subcontractor shall furnish and deliver all contact rail, cover board, insulators and related hardware to the Project to be installed by the others. This includes materials, supplies, transportation, supervision, permits, and services, and performance of all operations necessary and required to satisfactorily supply the contact rail and associated hardware, which shall include, but not be limited to, the following:

A. General

Fabricate, supply and deliver materials in compliance with tolerance as specified and validate compliance as required.

Subcontractor shall schedule the supply and delivery of material to meet the Project Schedule. The scope of work includes coordination of the delivery with the Contractor and other Subcontractors working on other parts of this Project in the same area and with the government agencies having jurisdiction over the work.

The Subcontractor shall prepare an execution plan for its work and provide input to the overall Project execution plan.

B. Wiehle Avenue Station 1344+02.98 to STA 726+24.70 IB track (N1) and OB track (N2)

Detail design, engineering, verification, and delivery of all main line, yard expansion and Yard line Extension contact rail, cover board, insulators and related hardware.

Detail design, engineering, verification, and delivery of all main line, yard expansion and Yard line Extension contact rail end approaches, expansion joints, contact rail anchors, and related hardware. The contact rail system and all appurtenances to be coordinated with design drawings and specifications.

All contact rail hardware required for special trackwork installation is included. This encompasses special trackwork wood switch timber on ballasted track and aerial and tunnel direct fixation special trackwork.

Supply bolts and related hardware needed to attach contact rail, cover board, insulators contact rail end approaches, expansion joints, and contact rail anchors to the tie extender or contact rail tie. Tie extenders will be provided by others.

This includes Management, engineering, supply and delivery of contact rail system and all appurtenances for ballast track and direct fixation track including structures and tunnels.

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Contact rail system and all appurtenances shall be delivered ready for installation and assembly without welding or other extra ordinary requirements. Pre curved contact rail when required is the responsibility of the supplier.

Factory Testing of materials, inspection and delivery activities are the responsibility of the supplier.

C. Orange Line Tie-in Area 1: STA 475+50 to STA 498+38.89

In addition to the scope defined in B., above:

1. Coordinate with Contractor a detailed supply and delivery plan, including sketches for all special trackwork installation, specifically a new No. 10 Double Crossover and two No. 15 turnouts (LH&RH).
2. Supply all contact rail system and all appurtenances and materials not specifically excluded.
3. Contact rail and appurtenances will be provided for approximately 120 feet of existing tracks 1 and 2 between the crossover and new turnouts and existing tracks Removal and ballast for installation of special trackwork.

D. Yard Extension Area 2 : STA 776+18.47(N3) to STA 765+13.92 (N3) and continuing to STA 8+78.99(YL3) to STA 0+00 (YL3)

Same as B., above.

E. Storage Track Area 3 : STA 11+11.07(to end STATION of storage tracks 6A through 6H)

Contact rail system and all appurtenances for new tracks as depicted on Attachment 1 to DTP Request for Change (RFC-006 Rev. 1, 25235-000-GPC-GARC-00006). as shown in drawings ~~K99 PP 001 and K99 PP 002 and K99 PP 004 and K99 PP 005.~~

Work Not Included

1. The scope of work does not include installation of the contact rail.
2. The track installer Subcontractor will provide all other materials needed for ballasted and DF track construction, including field welds, emergency guard rails, guard rails and any miscellaneous track materials.
3. Cables, contact rail heaters, clips, bolts and other hardware needed to make cable and/or other attachments to the contact rail are excluded from the scope of this package.

Specifications

Unless noted otherwise, the following specifications reflect the versions identified in the Addendum to the WMATA Standard Technical Specifications, 100% PE Design Submittal (February 2006).

Applicable specifications are also included as part of this document:

Spec No.	Specification Title
03480	Concrete Cross Ties and Fastenings
05651	General Track Construction
05652	Ballasted Track Construction
05653	Direct Fixation Track Construction
05654	Special Trackwork Construction -Ballasted
05655	Special Trackwork Construction -Direct Fixation
05657	Direct Fixation Rail Fasteners
05658	Track Appurtenances and Other Track Material
05659	Special Trackwork
05661	Contact Rail and Appurtenance for Traction Power
06130	Timber Ties
13115	Corrosion Control System Testing
16060	Grounding and Bonding
16127	Contact Rail System Installation

C17
Wiehle Avenue Replacement Parking

This item is deleted from the Design Build Contract per Contract Change Order Eight (008).

~~Scope of Work~~

~~The Contractor shall design and construct replacement parking for spaces lost during the various stages of construction at the existing Wiehle Avenue park and ride/kiss and ride facility due to construction of the Wiehle Avenue station, bus facilities, kiss and ride facilities, parking garage and other facilities at the site.~~

~~The specific number and location of the parking spaces will be determined by the Owner.~~

~~Work not Included~~

- ~~1. Acquisition of property~~
- ~~2. Requirements for buses and bus operation.~~