

PMOC MONTHLY REPORT

East Side Access (MTACC-ESA) Project

Metropolitan Transportation Authority

New York, New York

Report Period November 1- November 30, 2015



PMOC Contract No. DTFT6014D00017

Task Order No. 2, Project No. DC-27-5287, Work Order No.1

Urban Engineers of New York, D.P.C., 2 Penn Plaza, Suite 1103, New York, New York 10121

PMOC Lead: E. Williamson, 212-736-9100; ejwilliamson@urbanengineers.com

Length of time on project: Eight years on project for Urban Engineers

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THIRD PARTY DISCLAIMER

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For projects funded through FTA Full Funding Grant Agreements (FFGAs) program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT6014D00017, Task Order No. 002. Its purpose is to provide information and data to assist the FTA as it continually monitors the Grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the Grantee continues to be ready to receive federal funds for further project development.

This report covers the project management activities on the East Side Access (ESA) Mega-Project managed by MTA Capital Construction (MTACC) with MTA as the Grantee and financed by the FTA FFGA.

MONITORING REPORT

1.0 PROJECT STATUS

a. Design

As of the end of October 2015, MTACC reported that the overall engineering effort was 98.3% complete, based on Earned Value for Design Deliverables, compared with a planned status of 100.0%. MTACC's Cost Report shows that 90.9% of the overall "EIS and Engineering" category has been invoiced and 91.0% of the "Design" category (including Design Settlement) has been invoiced, each the same as the previous month.

Design work on the new, stand-alone CH061A package (completion of Queens Tunnels "A" and "D") continued. The 100% review submission has been accepted and the package is currently awaiting funding. Contract advertisement is scheduled for December 14, 2015, with bids due on January 25, 2016, and Notice to Proceed on March 14, 2016.

For the 48th St. Entrance, the MTA Board had previously approved the design agreement with the building owner. The building owner agreed to provide the designs for the relocation of the existing interior utilities and to complete some limited structural design. MTACC is continuing discussions with the building owner and is nearing completion of the required easements and construction agreements. The 60% design was submitted to ESA by the building owner in

October 2015. All work will now be included in a single package, CM015, and there is no longer a need for CM015A. The GEC Proposed Change Order was revised in November 2015 to reflect the design agreements reached during negotiations between the building owner and MTACC.

Contract CH058 work scope is being divided and repackaged into two separate contracts: CH058A will contain the Tunnel B/C Approach Structure and CH058B will contain the East Bound Re-route. Forecast dates for CH058A include: advertise April 12, 2017; bids due June 9, 2017; NTP August 1, 2017. Design work for this package is currently on hold pending completion of a GEC Proposed Change Order. Additionally, the final design for package CH058B is awaiting the completion of a rail traffic simulation study for Harold Interlocking, expected to be completed in January 2016; and the final decision on building the Temporary Eastbound LIRR Passenger (TELP) track.

Final resolution has been reached on the west end of the Mid-Day Storage Yard (CQ033) regarding what work is to be performed by Amtrak (track and signals) to tie into the ERT (East River Tunnels) and what work will be performed by the CQ033 contractor. Scope changes include the addition of the Sub 4 to Line 2 connection, approved by Amtrak, and the deletion of the Sub 3 to Line 4 connection. The GEC Proposed Change Order was negotiated and the final proposal was submitted to the PMT. Regarding the Arch Street Yard tie-in, resolution is still required between MTACC and LIRR for final determination on the scope of LIRR Force Account (FA) work. The 100% design was completed and sent to the Construction Manager in November 2015. Following the Construction Manager's review, the 100% design package will be submitted to LIRR for review and approval. The signed and sealed bid documents are expected in early December 2015. The advertise date for CQ033 is currently forecast for 1Q2016 and may be as early as late January 2016.

A separate procurement package, Contract VQ033, will provide the eight Central Instrument Locations (CILs) for Contract CQ033, and is presently scheduled for award in December 2015. The GEC made final submission of the signed and sealed plans and specifications on August 14, 2015. The contract was advertised on August 17, 2015, and bids were received on October 30, 2015. The technical evaluation and hearing were successful and the PMT will make a recommendation for award which is now expected in December 2015.

Contract CS086, Tunnel Signal Installation, is a stand-alone package. The MOU with LIRR for inclusion of Positive Train Control (PTC) in this contract is currently in development and progress is advancing. The GEC Proposed Change Order for the addition of PTC is being developed.

For Contract VS086, Systems Package 3 – Signal Equipment Procurement, the GEC design was completed but is now being revised to incorporate the requirements of Positive Train Control (PTC).

b. Procurement

As of the end of October 2015, the ESA Cost Report showed that total procurement activity for the project was 71.2% complete, with \$7.115 billion awarded out of the \$10.178 billion current projected budget.

The CM007 package was advertised on December 23, 2014, and contract documents were made available for proposers on January 15, 2015. The pre-proposal conference and site tour were held in early March 2015. The proposal due date was extended four times from May 2, 2015, to September 15, 2015, when seven technical/schedule proposals were submitted. The cost proposal due date was pushed back several times from October 6, 2015, to October 27, 2015, when seven cost proposals were submitted. The PMT technical ranking recommendation letter was finalized, approved, and issued on October 30, 2015. During November 2015, five proposers of the seven were qualified for continued negotiation. Addendum #28 was issued to the five remaining proposers and revised costs and schedules are due in early December. MTACC is currently planning to complete the Best and Final Offer process and make an award recommendation in late December 2015/early January 2016 in support of a January 2016 MTA Board action and a February 2016 Notice-to-Proceed.

Contract CH057, Harold Structures Part 3, bids were opened on July 9, 2015. [REDACTED]

[REDACTED] The MTACC had initially planned to award the CH057 Contract and issue a Notice to Proceed (NTP) on August 13, 2015, but this has been delayed through November 2015 while contract legal issues are being resolved. Award is now anticipated in December 2015.

Contract VQ033, Mid-Day Storage Yard CILs, was advertised on August 17, 2015, and bids were received on October 30, 2015. The technical evaluation and hearing were successful and award is expected in December 2015.

c. Construction

The PMT reported in its October 2015 Monthly Progress Report that total construction progress reached 59.4% complete versus 60.7% planned. The PMOC's calculations, based on data included in the ESA Cost Report shows construction completion at 59.4%. Since the 2014 Re-Plan, ESA has only performed at a rate of 84.2% of the projected accomplishments.

CM004 – 44th Street Demolition and Fan Plant Structure - 245 Park Ave Entrance: The CM004 contract was demobilized in 3Q2014 and MTACC established a Substantial Completion date of September 2014. There is, however, one outstanding issue from the CM004 contract that has not been resolved and continues to be a problem. The PMOC previously reported that delivery of the remaining limestone facing for the Vent Building, as well as acceptance of the material by the CM014B contractor, remains an issue that prevents CM004 from entering the closeout phase of the contract. The root cause of the problem is that the contractor did not implement proper procedures in delivery, handling and storage of the stone, causing several pieces to be either chipped or broken. On Monday, December 7, 2015, MTACC and the contractor will perform an inventory of the stone in the B/N Yard. The good pieces will be stored on pallets and the bad pieces will be replaced. Previous inventory dates set by the contractor have not been met.

CM005 - Manhattan South Structures: The MTACC Forecast Value for CM005 decreased in October 2015 to \$244,010,179. The MTACC forecast for Substantial Completion changed slightly to February 2, 2016 from February 6, 2016. Actual construction progress for October 2015 was 1.7% versus 2.6% planned. Cumulative progress through October 31, 2015, was 93.0% actual versus 92.7% planned.

Construction Progress: During November 2015, the contractor continued the placement of pneumatically applied concrete (PAC) in the GCT 1 and 2 East and West Wyes. The contractor also continued to install arch PAC at the TT1 upper level and the Air Wye. The contractor continued to erect formwork to pour concrete at the south end walls in both East and West Caverns. The contractor continued preparation to start waterproofing and rebar installation at the 38th St. Vent Facility. The contractor continued duct bench construction in the lower level north connector tunnels. The contractor also continued PAC construction in the upper level north connector tunnels and will follow this activity with duct bench construction.

CM006 – Manhattan North Structures: The MTACC Forecast Value for CM006 decreased to \$349,043,001 in October 2015. The MTACC forecast for Substantial Completion changes slightly to December 31, 2016. Actual construction progress for October 2015 was 3.3% versus 4.7% planned. Cumulative progress through October 31, 2015, was 43.6% actual versus 70.2% planned. CM006 Milestone #2 needs to be completed so that it does not impact site access for CM007, which is on ESA's project critical path. Milestone #2 is currently forecast to be achieved on May 9, 2016 over three months late. The CM006 contractor's rate of construction progress continues to significantly lag behind the planned progress rate.

Construction Progress: During November 2015, the CM006 contractor continued lead abatement of the 63rd St. Tunnels and Structures. The contractor also continued arch construction at the 55th St. Vent Facility, and will complete PAC at the GCT 4 East and West Wyes and 50th St. Air Plenum. In the lower level westbound tunnel (WB1), between the GCT 5 West Wye and 55th St. Vent Structure, the contractor continued waterproofing and arch concrete construction. The contractor continued duct bench construction at GCT 4 East and West Wyes, and Tunnels 401, 402 and EB2. The contractor continued end wall construction at the north end of both the East and West Caverns. As previously reported, the contractor is not meeting the recovery schedule milestones. ESA continued to review schedule impacts and the CM006 contractor performed concurrent work where possible.

CM013A – 55th Street Vent Facility: The MTACC reports, that through October 31, 2015, the Estimate at Completion (EAC) for CM013A has decreased slightly to \$56,347,580 from the previous \$56,362,324. The current MTACC forecast for Substantial Completion remains December 7, 2015. Actual construction progress for October 2015 was 0.9% versus 1.4% planned. Through October 31, 2015, cumulative progress was 95.6% actual versus 97.7% planned.

Construction Progress: Permanent street paving was completed during November 2015 and this section of E.55th St. was opened to full vehicular traffic. Installation of the re-design hoisting system was completed. Punch List work continues throughout and inspections of floors and rooms continues.

CM014A – Concourse and Facilities Fit-Out Early Work: MTACC reports that through October 31, 2015, the Forecast for CM014A has been reduced slightly to \$58,388,540 from the previous \$58,437,782. The MTACC reported forecast for Substantial Completion has been extended to November 30, 2015, from the previous October 30, 2015; although, as of the date of this report, the South Substation has still not been fully energized. As a result, the forecast Substantial Completion date was not met and the PMOC forecasts that the Substantial Completion date will be the first quarter of 2016. Actual construction progress for October 2015

was 0.2% versus 1.3% planned. Cumulative progress through October 31, 2015, was 94.7% versus 97.8% planned.

Construction Progress: During this period, ConEd energized one of the four feeds needed to close out this contract. Although ConEd has energized one of the feeds to the substation, full access to the breakers continues to be delayed because of the contractor's lack of having trained, approved maintenance electricians to take over the substation as required by ConEd. The Project Office is attempting to have the remaining three feeds energized between December and mid-January 2016. The CM014B contractor will also have to provide approved maintenance personnel for when the substation is turned over to them, which will be following Substantial Completion. This South Substation has a total of six feeds. The last two feeds will be energized when traction power is needed.

CM014B – Concourse and Facilities Fit-Out: MTACC reports that through October 31, 2015, the Forecast for CM014B decreased to \$460,967,500 from the previous \$465,972,225. The Substantial Completion date remains August 18, 2018. Actual construction progress for October 2015 was 1.3% versus 1.0% planned. Cumulative progress through October 31, 2015, was 8.4% actual versus 4.0% planned.

Construction Progress: Surveying in the Concourse is continuous and will be on-going throughout this contract.

Concourse (Madison Yard): The contractor continues with layout, excavation, installation, and backfill of underslab piping in Zones 1-4. Work is continuing with waterproofing, rebar, forming and placement of cast-in-place manholes and ejector pits. Placement of CLSM (Controlled Low Strength Materials) for the Dining Concourse Escalator Pit and escalator pit sand walls was completed. Work continued to repair, upgrade, and maintain temporary utilities such as the vent system, emergency and temporary lighting.

Demolition (Hog Houses & MTA Building): Demolition has been delayed by MTACC. Relocation of personnel will be to the new trailer park on E. 52nd St., which is not completed. The MTA CCU has advised that demolition permits must be issued for this work.

Shaft #3: The lining of the shaft is the focus of activity in this area. Mobilization and preparations for Concrete Lift #1 began November 16, 2015.

Wellways: Installation of formwork continued at all four Wellway concourse perimeters for the finish slab. Continued with formwork, rebar, and concrete placement down the Wellways in preparation for the installation of the escalators.

Biltmore Connection: The abatement and removal of steam lines in Burma Road began.

Dining Concourse Connection: Completed mud walls and began waterproofing of Escalator 30 and 31 pits. MTACC held a breakthrough press ceremony highlighting the start of demolition for the escalators from the Dining Concourse into the new ESA concourse on November 19, 2015. Approximately 50% of the floor demolition has been completed.

East 48th St. Entrance: Full street closures for the street decking installation is being delayed because of ConEd issues regarding temporary steam line tie-ins.

East 50th St. Vent Plant: At the Vent Building electrical survey and layout is ongoing.

Systems Contracts:

CS084 – Traction Power Substations: As of the end of October 2015, the Forecast and the Budget for the CS084 contract remained at \$78,373,772, the same as reported in the PMOC's last report. MTACC's and the contractor's forecasts for Substantial Completion are both December 2019. In its October 2015 Monthly Report, MTACC shows a progress curve for the CS084 contract that presents actual contract progress as 2.5% versus a planned 1.8%; numbers that are based on actual versus projected costs, not physical construction efforts. An analysis of the status of the work activities shown on the approved baseline schedule is necessary to determine the status of the progress of physical work on this contract. The PMOC has requested a copy of the CS084 approved baseline schedule in Primavera format for analysis.

Design Progress: The contractor continued with the transmission of contractual submittals. Both the contractor and the ESA PMT recently decided to adjust the design submittal and comment response procedure by calling for face-to-face meetings with the designers and the reviewing parties. This is an effort to mitigate sending the same design submittals back and forth between the contractor and ESA by bringing all interested personnel together to clarify questions and comments on the designs. The PMOC agrees that this approach could help streamline the submittal review and approval process.

Construction Progress: As of mid-November 2015, the CS084 contractor had neither started nor planned to start any significant construction. As previously reported, a \$210,000 retroactive contract modification was issued to procure some long lead-time equipment and an electrical line box for permanent electrical power work needed for other ESA contracts. However, no funding was included in this original modification for the contractor to perform the installation work. In its October 2015 Monthly report, MTACC indicates that the negotiations for this work effort are now complete and a request for approval of the modification will be presented to the MTA Board in December 2015. MTACC continues to forecast a March 2015 completion date for this electrical work.

CS179 – Systems Package 1: As of the end of October 2015, MTACC's forecast for CS179 has, once again, dropped down to a level equal to the current \$606,938,540 Budget. This is a \$1,374,933 decrease in the forecast value from that reported by MTACC in its 3Q2015 report. MTACC reports that the CS179 Baseline Schedule was approved in early November 2015. The PMOC has requested a copy of the CS179 approved baseline schedule in Primavera format for analysis. In its October 2015 Monthly Report, MTACC shows a progress curve for the CS179 contract that presents actual contract progress as 9.3% versus a planned 9.2%; numbers that are based on actual versus projected costs, not physical construction efforts. As presented, these progress numbers imply that the contract is ahead of schedule; however, it is unclear to the PMOC how MTACC can reach this conclusion when, in its October 2015 Monthly Report, MTACC acknowledges that several contract milestones are already behind schedule. Additionally, the contractor continues to assert that there are significant delays in meeting 60% of the contract milestones. On November 6, 2015, MTACC exercised three contract options, with no change to the overall contract price. Two of these options, Option No.6 – Obsolescence Management and Option No. 7 – Specialty Equipment for Options, were executed on the day specified in the conformed CS179 contract documents. The third option, No. 2A – 63rd Street Tunnel, although also executed on the day specified in the conformed CS179 contract documents, was only part of the "Option No. 2" specified in the conformed contract. The other

portion of this option, now designated “No. 2B - Manhattan Work”, must still be executed and MTACC is currently forecasting this to occur in April 2016, contingent upon funding availability.

Design Progress: As of the end of November 2015, a number of the required Preliminary Design Review (PDRs) were held and several more PDRs, as well as some Second Design Reviews (SDRs), are planned for December 2015. At the November 2015 Monthly Progress Meeting, the Systems Design subcontractor asserted that there were a significant number of outstanding submittal and Request for Information (RFI) responses that it needed to progress for the System’s Designs. The ESA CS179 CM acknowledged that the backlog in ESA’s review and approval of contractor design submittals and RFIs is unacceptable and advised that meetings with senior management of the GEC were being scheduled to address this on-going problem. The PMOC recommended that similar to the approach being taken on the CS084 contract, the CS179 CM bring all involved parties together to clarify comments on the designs. This will allow the parties to discuss, face-to-face, the comments and reach clarity on any comments in an effort to minimize the “Revise and Resubmit” cyclic submittal review process.

Construction Progress: During November 2015, the CS179 contractor continued various elements of work (conduit installations, concrete work, temporary power installations, etc.) at the 2nd Ave.; B10; Roosevelt; Vernon; Tunnels A, B/C, and D; 12th St.; 29th St.; and 39th St. facilities. The two Stop Work Orders (SWOs) for work in the control rooms at the Vernon and B10 facilities are still in effect. Although the ESA CS179 CM wanted to negotiate the extra work associated with these SWOs in October, that effort did not take place and no date is available for completion of these negotiations. Work at the 23rd Street facility remains on hold as a result of an issue with the concrete floor and discussions with the CQ032 contractor regarding this issue continue.

Queens Contracts:

CQ032 – Plaza Substation and Queens Structures: MTACC Forecast Value for CQ032 remained unchanged in October 2015 at \$254,986,409. MTACC forecast for Substantial Completion slipped by one month to July 21, 2016, due to redesign of MEP equipment for the Yard Services Building and a redesign of the new shaft at 23rd St. Actual construction progress for October 2015 was 2.4% versus 1.5% planned. Cumulative progress through October 31, 2015 was 91.0% actual versus 84.4% planned.

Construction Progress: During the month of November 2015, the CQ032 contractor continued MEP work in the Yard Services Building (YSB). The contractor also started installation of the exterior brick face of the YSB. The contractor continued CMU wall construction, door and frame installation, and roof construction at the Plaza Vent Structure (PVS). The contractor started conduit installation for traction power distribution from manholes adjacent to substation B-10 above the former Early Access Chamber. In Tunnel A, the contractor continued with installation of conduit and bench wall. The contractor continued construction of the sidewalls of the Bellmouth Reconfiguration. The contractor also prepared to resume work at the 23rd St. Facility.

Harold Interlocking Contracts:

CH053 Contract – Harold Structures Part 1 and G.0.2 Substation: MTACC’s Forecast for CH053 increased slightly during October 2015 to \$299,774,884. The MTACC forecast for

Substantial Completion remained at January 19, 2016. Actual construction progress for October 2015 was 0.1% versus 0.0% planned (the project was supposed to be complete by now). Cumulative progress through October 31, 2015 was 95.8% actual versus 100.0% planned.

Construction Progress: During November 2015, the CH053 contractor continued the “burn-in” periods for the C2 and C3 12kV electric traction feeder circuits. Amtrak had informed MTACC that it will require full 90-day “burn-in” periods for these circuits prior to its acceptance of the new 12kV system. The 90 days will be over in late December 2015. After that, the contractor can begin to remove the old 12kV duct bank. Additionally, the CH053 contractor installed miscellaneous catenary structure cross-arms and made various punchlist repairs to bridges it had previously installed. The PMOC believes that Substantial Completion for CH053 will be achieved mid to late 1Q2016.

CH054A – Harold Structures Part 2A: MTACC’s Forecast for CH054A decreased slightly during October 2015 to \$58,228,479. Although MTACC’s October 2015 Draft Monthly Report indicates that Substantial Completion was extended 3 weeks to November 23, 2015, it actually declared Substantial Completion for CH054A on November 30, 2015. Actual construction progress for October 2015 was 0.1% versus 0.0% planned (the project was supposed to be complete by now). Cumulative progress through October 31, 2015, was 98.6% actual versus 100.0% planned.

Construction Progress: During November 2015, the CH054A contractor installed the RTU (remote terminal unit) to operate the auxiliary power system in “F” Interlocking and made various punchlist repairs throughout its job sites. Subsequently, MTACC declared “Substantial Completion” for CH054A on November 30, 2015.

CH057A – Part 3 Westbound Bypass: MTACC’s Forecast for CH057A increased during October 2015 to \$146,506,754 due to inclusion of scope additions and potential contract modifications. MTACC extended its forecast for Substantial Completion by three weeks to February 17, 2017. Actual construction progress for October 2015 was 0.8% versus 3.0% planned. Cumulative progress through October 31, 2015, was 28.6% actual versus 79.0% planned.

Construction Progress: During November 2015, the CH057A contractor did not perform any appreciable construction while it negotiated several key Contractor Proposal Requests (CPRs) with MTACC arising from changed field conditions that prevented it from progressing work as originally designed. Total contract delay is now three months.

CH057C – 48th St. Bridge and Retaining Wall: MTACC’s October 2015 Forecast for CH057C indicated a reduction to \$2,290,633; however the PMOC is aware of future scope additions and contract modifications that could raise the Forecast to the previously reported \$3,091,418. The MTACC forecast for Substantial Completion remained at February 18, 2016. Actual construction progress for October 2015 was 6.8% versus 0.0% planned (MTACC has not formally added the increased scope to its progress curve yet). Cumulative progress through October 31, 2015, was 71.9% versus 100.0% planned.

Construction Progress: The CH057C contractor did not perform any construction during November 2015, but it did mobilize and make other preparations to prepare subgrade and install the new RPR (Relocated Primary Route) Track in Harold Interlocking. Construction of the RPR Track is scheduled to begin in December 2015.

Railroad Force Account Contracts:

PMOC Note about Amtrak Force Account Packages FHA01, FHA02, and FQA65: The Substantial Completion dates shown in the following Amtrak Force Account sections reflect MTACC's "ESA First" schedule, which originally extended each of the work packages approximately 24 months. Since the original extension, MTACC has continued to update those dates on a monthly basis.

FHA01 – Harold Stage 1 Amtrak: MTACC's Forecast for FHA01 remained at \$18,418,310 during October 2015. The MTACC forecast for Substantial Completion remained at May 4, 2018. Actual construction progress for October 2015 was 0.0% versus 0.0% planned. Cumulative progress through October 31, 2015, was 97.8% actual versus 99.2% planned.

Construction Progress: Amtrak did not perform any significant Stage 1 construction during November 2015.

FHA02 – Harold Stage 2 Amtrak: MTACC's Forecast for FHA02 remained at \$60,150,231 during October 2015. The MTACC forecast for Substantial Completion remained at April 10, 2020. Actual construction progress for October 2015 was 1.4% versus 0.1% planned. Cumulative progress through October 31, 2015, was 103.0% actual versus 97.8% planned.

Construction Progress: During November 2015, Amtrak Electric Traction personnel installed a Flurry break and performed other miscellaneous work at catenary pole B-913, transferred wires at catenary poles B-924 and B-923, transferred trolley wires between catenary poles B-922 and B-927W and between B-923W and B-925MM, and installed new trolley wires over the recently installed #3164 turnout. Signal personnel installed signal cables at new Signal Bridge E35 and from "F2" CIH west.

FQA65 – Loop Interlocking Amtrak: MTACC's Forecast for FQA65 remained at \$33,287,863 during October 2015. MTACC forecast for Substantial Completion remained at December 10, 2022. Actual construction progress for October 2015 was 1.4% versus 0.7% planned. Cumulative progress through October 31, 2015, was 14.5% actual versus 47.2% planned (the PMOC believes that MTACC has not recalculated the "planned" percentage since the "ESA First" schedule was implemented).

Construction Progress: During November 2015, Amtrak Signal personnel continued to construct a retaining wall adjacent to Loop 2 Track between future "Loop" and "T" Interlockings. Communications personnel installed and spliced fiber communications cables from the High Speed Rail Building to "T" CIH.

FHL01 – Harold Stage 1 LIRR: MTACC's Forecast for FHL01 remained at \$24,379,363 during October 2015. MTACC forecast for Substantial Completion remained at August 17, 2016. Actual construction progress for October 2015 was 0.0% versus 0.0% planned. Cumulative progress through October 31, 2015, was 86.6% versus 100.0% planned.

Construction Progress: The LIRR did not perform any significant Stage 1 construction during November 2015.

FHL02 – Harold Stage 2 LIRR: MTACC's Forecast for FHL02 remained at \$92,932,559 during October 2015. The MTACC forecast for Substantial Completion remained at August 16,

2018. Actual construction progress for October 2015 was 2.0% versus 1.2% planned. Cumulative progress through October 31, 2015, was 79.3% actual versus 90.0% planned.

Construction Progress: During November 2015, LIRR Signal personnel successfully cutover the new “H3” CIL (Central Instrument Location) in Harold Interlocking, after which they continued to monitor and post-test the circuits. Related to the cutover, Signal personnel also completed ESA31 (signal design designation) revisions in existing Harold Tower. In addition, Signal personnel also installed trough and performed other miscellaneous tasks at the “H1”, “H2”, and “H6” CILs and installed heater and signal cables at six different turnouts. LIRR Third Rail personnel installed conduit for the positive third rail circuit at the #4194 switch.

d. Quality Assurance and Quality Control (QA/QC)

ESA Quality Staff: The ESA Quality Manager will begin interviewing candidates for the replacement of a staff member who resigned.

GEC Quality: The GEC Quality Manager’s last day on the job was September 4, 2015. The GEC Program Manager named a replacement for him in October 2015. The ESA Quality Manager requested that a formal request be submitted to him before he can approve the appointment. As of November 30, 2015, however, this has not occurred.

The ESA Quality Manager performed an audit of the GEC Quality Team. He has finalized the report and plans to issue it in December 2015. There were no significant findings.

CS179 (Systems Package 1 – Base Contract): The ESA Quality Manager has conditionally approved a new Quality Manager for the CS179 contractor. If he performs well after 90 days probationary period, he will then be approved as the CS179 contractor’s permanent Quality Manager.

Condition Assessment Inspections: Every six months the ESA Quality Manager performs Condition Assessment Inspections. On November 20, 2015, he inspected the CM013A 55th Street Vent Facility with an LIRR representative. There were minor findings.

2.0 SCHEDULE DATA

ESA submitted its IPS #75, data date November 1, 2015, and its variance report to the PMOC.

Although ESA's IPS #75 still indicates that the Critical Path goes through the procurement of Contract CM007 and then to construction of the structure within GCT, the PMT has changed NTP date for start of CM007 due to significant delays in contract CM006 without stating this change and other analysis in its variance report. ESA's candidate revision of SMP (currently working draft) has explicit language in section 5.4, Milestones, and RSD slippage Recovery process, by stating "a monthly variance report will identify any changes or adjustments to the milestone performance times."

The PMOC maintains its opinion that ESA's Manhattan Critical Path has 2 concurrent paths because of the delay in Contract CM006 and its logic tie with Contract CM007. ESA's IPS does not show the logic tie between completion of Milestone #2 in Contract CM006 (completion of all work in lower level of Westbound Cavern) and CM007 access to the lower level caverns. Contract CM006 is scheduled to complete work in the lower level tunnels by May 9, 2016, 99 days later than originally scheduled. It should be noted when the PMT was asked about its analysis of this milestone independent of contractor's opinion the date that was discussed was September 2016.

Additionally, it should be noted that there is another hand-off from CM006 (Milestone #6-Substantial Completion) to Contract CS179 scheduled for May 25, 2016, which leaves ESA with less than a month contingency for CS179 Access Restraint #12.

After finishing Contract CM007, the ESA Critical Path shifts to CS179 work within the Train Operation Center (TOC) and finally through Integrated Systems Testing (IST), Starting, Commissioning and RSD. ESA has a significant number of contracts that are "near critical", which by definition are within 45 days of the Critical Path. These contracts are:

- CM014B: GCT Concourse & Facilities Fit Out (hand off to CS179 IST);
- CM007: GCT Caverns (hand off from CM006 access via critical path above);
- CQ032: Plaza Substation and Queens Structures (Early Access Chamber);
- CQ033: Mid-Day Storage Yard;
- VQ033: CIL Procurement – Mid-Day Storage Yard;
- CH053: Harold Structures Part 1 & G02 Substation (hand off to CH057A);
- CH057D: Harold Track Work: Cutover 3B (Track A) – Future Contract;
- CH057E: Harold Catenary Work;
- CS179: System Facilities – Package 1 (IST) – Future Contract;
- CS084: Tunnel Systems Package 4 – Traction Power Procurement and Installation;
- FHA01/02/03/04: Harold Amtrak Force Account Work (integral with the CH contracts);
- FHL02/03/04: Harold LIRR Force Account Work; and
- FQA65: Loop Interlocking – Amtrak Force Account Work (CIH and Switch work)

Contract CS179, Systems Package 1 – Facilities Systems, also shows significant delays in 10 milestones so far. The PMOC believes that the PMT will need to manage the CS179 contract in

a manner consistent with the outcome of the Contract CM007 negotiations based on a full understanding of the complex coordination between the two contracts.

Table 2-1, below shows ESA’s upcoming contract procurement schedule:

Table 2-1¹: Future Procurement Schedule

Contract Description	Advertise Date	Bid Date	NTP	Project Contract Period	Substantial Completion
CM007 ² GCT Caverns	12/19/2014 (A)	Technical Proposal: 9/15/2015 (A)	2/4/2016	43 Months	7/24/2019
		Cost Proposal: 10/27/2015			
CQ033 ³ Mid-Day Storage Yard	12/28/2015	3/3/2016	5/2/2016	37 Months	5/28/2019
VQ033 Mid-Day Storage Yard CIL Procurement	8/17/2015 (A)	10/30/2015	12/1/2015	42 Months	5/28/2019
CH057 48 th Street Bridge / D Pit and Approach Structure	4/7/2015 (A)	7/9/2015 (A)	11/3/2015	29 Months	4/18/2018
CH061A, Tunnel A	12/14/2015	1/25/2015	3/14/2016	14 Months	5/16/2017
VHA04 Procure Materials for Harold Stage 4 - Amtrak F/A (Buy America)	N/A	N/A	11/16/2015	75 Months	1/25/2022

¹ The PMOC notes that the PMT did not update its variance report to reflect the latest changes in its IPS

² CM007’s technical bid review date has slipped by 2 months to date, although ESA has held the NTP date for January 1, 2016. Any additional complications in the procurement cycle could potentially cause further time loss and a delay to the NTP date.

³ CQ033 was planned to be awarded by the end of 4Q2015, but is now projected to have a 3 month delay. This will cause a corresponding delay in achieving ESA’s first ELPEP cost contingency hold point that has been projected for 4Q2015, and might consequently change ESA’s contingency drawdown.

Table 2-2, below, shows important 90 day Look-Ahead milestone schedules:

Table 2-2: Critical Milestones 90 Day Look Ahead (from ESA IPS #75)

Activity ID	Activity Name	Start	Finish	Total Float
CM014B: GCT Concourse and Facilities Fit Out				
CM014B-MS01	CM014B MS01 - TMC/ CC-C5/ CR-C2 Comms. Room & F/O Backbone Route from TMC-CRC2		5-Mar-16	94
CM005: Manhattan South Structures				
CM005-1040	Milestone 4 Complete Balance of Project (Substantial Completion) - MS60 - (February 6 2016)		2-Feb-16	79
CM007: GCT Caverns				
CM007-0160	CM007 Notice of Award		2-Feb-16	0
CM007-1020	CM007 NTP	3-Feb-16		0
CQ033: Mid-Day Storage Yard Facility				
CQ033-1050	CQ033 Ready for Procurement (Sign/Seal)		29-Feb-16	28
CQ033-1060	CQ033 Begin Advertisement	1-Mar-16		28
CH057A: Westbound Bypass Structure (exclude Slab)				
CH057A-5580	CH057A Milestone 2 - Signal Bridge 16		20-Dec-15	50

Project Critical Path:

Table 2-3, below shows ESA critical path and its contingencies for three different RSDs.

Table 2-3: ESA Critical path and its contingencies for 3 RSDs

Activity Name	Original Duration	Start	Finish
CM007 Contract	1054	06-Mar-15 A	19-Apr-19
IST Integrated System Testing (PART OF CS179)	153	19-Apr-19	26-Nov-19
Startup/Testing/Commissioning/Revenue Service	1113	27-Nov-19	13-Dec-22
Early Revenue Service Date			25-Mar-20
ESA IST Contingency 1 (IST Completion Contingency to LIRR)	170	27-Nov-19	14-May-20
Stakeholder agreed additional IST Contingency 2 (5 months)	154	15-May-20	15-Oct-20
Completion of Integrated System Testing (With Contingency)	0		15-Oct-20
Target Revenue Service Date			12-Feb-21
ESA Program Schedule Contingency	365	16-Oct-20	15-Oct-21
Stakeholder agreed additional Program Contingency (10 months)	304	16-Oct-21	15-Aug-22
ESA Project Substantial Completion for LIRR Final 3 Months	0		15-Aug-22
ESA Planning Contingency Ready for LIRR Final 3 Months Period	30	16-Aug-22	14-Sep-22
LIRR Final 3 Months Period	90	15-Sep-22	13-Dec-22
LATE - Begin LIRR Revenue Service To GCT	0		13-Dec-22
Late Revenue Service Date			13-Dec-22

For the immediate future, the Harold program work schedule remains independent from the Manhattan ESA work schedule and will remain so until the Tunnel B/C cutover, which is presently scheduled for May 2019, although the PMOC is projecting a year to 1.5 years delay to Harold substantial completion (excluding IST) at the moment considering the rate of progress in Harold. The ESA critical path for Harold work includes 55 separate activities that lead to the completion of Harold, and includes several intermediate activities which are predecessors to the Tunnel B/C cutover.

Schedule Contingency: IPS #75 is based on an RSD of December 2022 and has multiple levels of contingency. The PMOC’s schedule shows that ESA has 365 days of contingency for a December 2023 RSD. The PMOC had projected a three-month contingency (from 2Q2016 to 3Q2016) that would be used for any of the following conditions:

1. Delay in Final Completion of Contract CM005. This contract is on schedule for a Final Completion in 1Q2016. Based on the current schedule performance, this is not expected to be an issue.
2. Delay in Contract CM006, for which its MS #2 completion has been projected for 1Q2016. The PMOC estimates a three-month delay in this contract that would move completion of MS #2 into 2Q2016, the PMT’s latest projection is that MS could finish in 3Q2016.

3. Lack of funding availability for Contract CM007. To date, ESA does not have approved funding available from the MTACC's next capital program. The PMT has initiated work on alternative funding arrangements, but these have not yet been finalized. The PMOC's analysis of CM007 issues has indicated that ESA will not meet its projected NTP date of 1Q2016, but rather the PMOC's forecast date of 3Q2016 (which includes three months of contingency)

3.0 COST DATA

Funding: The MTA funding request for the 2015-2019 Capital Program was submitted to the NYS Capital Program Review Board (CPRB). ESA will need to obtain funding from this program to award all the options in the CS179 contract and to award the CM007, CQ033, and CH058 contracts. The \$10.178 billion (not including the \$463 million Rolling Stock Reserve) budget, presented to the Capital Program Oversight Committee (CPOC) in June 2014, will make the need for additional funding even greater. Until new funding is provided, the project has a funding shortfall of approximately \$2.6 billion, and is part of the un-funded MTA Budget. In late October 2015, the MTA presented a \$29 billion program to its Board for the 2015 – 2019 funding cycle. Although an agreement has been reached with the Governor, the Capital Plan finding had not been appropriated to the ESA project as of November 30, 2015. Two of the three CS179 options that were due to be exercised in early November 2015 were accepted, and Option 2 was split [REDACTED]

Budget/Cost: The ESA October 2015 Progress Report shows that the total project progress was 59.6% versus 60.3% planned against the Current Baseline Budget (CBB) of \$10.178 billion. Total construction progress was 59.4% versus 60.7% planned based on the total invoiced amount of construction (details of project budget and expenditures are shown in Appendix B, Tables 2 and 3). The PMOC's review of the Cost Report shows 59.2% completion, which is less than the ESA percentage complete. A PMOC review of the ESA Planned Cash Flow Chart shows that it is based on a 2022 completion date rather than ESA's announced target of 2020. As a result, the "Planned Value" of construction will be lower than that required to sustain the current ESA Target completion date at any particular time. Since the 2014 Re-Plan, ESA has only performed at a rate of 84.2% of the projected accomplishments. Given the above, this suggests that MTACC's probability of making its projected Revenue Service Date (RSD) is low.

After discussion at several Monthly Cost Review meetings, the PMOC and ESA established that the ESA Planned Cash Flow Chart is based on expenditure of the full budget, which is not what ESA plans to do. Consequently, "pay outs" will continue until all contingencies are spent and will not be related to the Plan or the Schedule. The PMOC does not regard that as a proper Cash Flow chart because it shows Planned Progress as lower than it is scheduled to be. The PMOC suggested that ESA update its Cash Flow chart to align it with planned construction progress and completion dates, but, to date, ESA has not yet made these changes.

The current \$10.178 billion budget follows the procedure of assigning a series of separate small contingencies which are not easily distinguishable. This has entailed multiple budget adjustments to date which will continue into the future. This appears to be operationally complex and often makes it difficult for the PMOC to determine the expected and current status of the project and its packages. The PMOC believes that, prior to completion of negotiation for the CM007 contract, ESA should determine how it would adjust budgets should the price come

in higher than the ESA's budget for CM007 due to revised cost submitted by the proposers in response to access delays caused by the CM006 contractor's forecast late completion of handover milestones. At Cost Review meetings, ESA has stated that it is not planning to show such adjustments for reallocation prior to the opening of the Proposals or even prior to the selection of the Bid for Award.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

Change Orders/Budget Adjustments: The PMT reported that, during October 2015, one (1) construction Change Order over \$100,000 was executed and two (2) design Change Orders were executed with the GEC for a total of \$860,000.

4.0 RISK MANAGEMENT

The last monthly risk meeting held by ESA was in January 2015. Since that time, ESA has not succeeded in addressing the risk topics as they had planned during the subsequent monthly cost and schedule review meetings. In response to the PMOC’s request, ESA had planned to resume the dedicated monthly risk meetings in October 2015, but this did not occur because the newly assigned Risk Manager resigned in October 2015. The PMOC is concerned that the risk management area has not been adequately supervised since the re-assignment of the previous Risk Manager nearly five months ago. The PMT is aware of the PMOC’s concern and is currently working on an interim solution.

The Contract CM007 risk workshop was conducted over a two-day period on April 8 & 9, 2015. The preliminary risk report was forecast to be issued by April 28, 2015, but this did not occur. At the FTA/MTACC Executive Meeting on May 21, 2015, the FTA and the PMOC were advised that the distribution of the draft Risk Report was discussed by upper management at ESA-PMT, the MTACC, the MTA, and the MTA President. Because of the very high level of concern about the confidentiality of the risk results, MTA decided to proceed with a very limited internal distribution of the draft Risk Report and a very small group participated in the May 1, 2015,

internal briefing. The FTA noted that they and the PMOC had participated in the workshops and requested the opportunity to review the report written by MTACC's risk facilitator. MTACC responded that they would discuss FTA's request with MTA upper management and provide an answer to the FTA. As of November 30, 2015, however, MTACC has not provided the draft risk report.

Based on long standing issues and concerns regarding Amtrak's ability to provide sufficient force account support to the ESA project, especially Electric Traction (ET) resources, ESA completed a Harold schedule re-sequencing in December 2014, also known as "ESA First," that advances work elements required for the new LIRR service to GCT and delays the FRA funded High Speed Rail (HSR) work beyond 2017. This work was also falling behind schedule due to the overall delays to much of the Harold work. On September 16, 2015, FRA approved the MTA generated grant amendment which will provide the basis to extend the funding. MTACC is currently working with the FRA to achieve this.

With regard to the implementation of the "ESA First" Harold Re-sequencing of late 2014, the PMOC notes that Amtrak has not been able to provide even the reduced level of force account resources that has been planned in support of the schedule. Additionally, the projected force account costs are trending noticeably higher than planned and the force account contingency budget line item is nearly depleted. ESA is currently engaged in a comprehensive study to identify and evaluate the reasons for the appearance of this situation and to make recommendations. The study is expected to be completed in January of 2016.

5.0 ELPEP COMPLIANCE SUMMARY

The current status of each of the remaining main ELPEP components is summarized as follows:

- **Technical Capacity and Capability (TCC):** The FTA requested MTACC to update its TCC Plan in response to the FTA/PMOC comments that were generated in November 2013 as a result of significant changes in key ESA upper management level positions. The MTACC submitted its revised Technical Capacity and Capability Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 7, 2015. The MTACC submitted a revised TCC Plan in response to FTA/PMOC comments on June 12, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and recommended a meeting with MTACC to resolve remaining issues. The FTA subsequently provided MTACC with the evaluation. MTACC responded with a reply on September 24, 2015, and the PMOC's review is nearing completion;
- **Continuing ELPEP Compliance:** The following ELPEP components continue to need improvement or are deficient: Management Decision; Design Development; Change Control Committee (CCC) Process and Results; Stakeholder Management; Issues Management; Procurement; Timely Decision Making; and Risk-Informed Decision Making. The PMOC is particularly concerned about the effectiveness of the risk management process over the last five months due to lack of continuity of leadership because the ESA Risk Manager position is again vacant; and

- **Project Management Plan:** The PMOC completed its review and evaluation of the MTACC's revisions and responses and submitted its findings to FTA-RII in 4Q2014. The MTACC subsequently submitted a revised Rev. 10 on March 13, 2015, that included updated information on the Change Control Committee. The revised Rev. 10 of the PMP was reviewed by the PMOC against the PMOC's evaluation in 4Q2014. The PMOC continues to coordinate with MTACC, arranging working meetings with ESA chapter authors and the corresponding PMOC reviewers to resolve the remaining outstanding FTA/PMOC evaluation comments. Several working meetings have been held since June 2015 with the goal of completing all meetings by the end of the year.

The PMOC notes that, since June 2013, the ESA project has continued to be non-compliant with ELPEP and is not meeting some of the more important requirements of the Schedule Management Plan (SMP) and Cost Management Plan (CMP) sub-plans to the PMP. The PMOC's opinion is that this continues to be a serious deficiency and needs to be resolved as soon as possible. The PMOC's major areas of concern include:



- **Schedule Management Plan (SMP):** The ESA project remains non-compliant with requirements for Integrated Project Schedule (IPS) Updating, Forecasting, and Schedule Contingency Management against a current baseline schedule. Given that the new budget and schedule have been put in place, the PMOC expected that the MTACC would start to meet the requirements set forth in its SMP in the above-referenced areas. The revised SMP was submitted on October 26, 2015, and the PMOC is nearing completion of its review; and

- **Cost Management Plan (CMP):** The ESA project remains non-compliant with requirements for Project Level EAC Forecasting, Project Level EAC Forecast Validation, and MTACC Cost Contingency Management and Secondary Mitigation. Given that the new budget and schedule were presented to the MTA CPOC in June 2014, these requirements should have been met by now, but MTACC has not made significant progress in this area. MTACC submitted its revised Cost Management Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 8, 2015. The MTACC submitted a revised CMP in response to FTA/PMOC comments on June 30, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and met with MTACC on November 16, 2015. MTACC is working on additional agreed revisions and is evaluating the PMOC's recommendations in six areas.

Revisions to the ELPEP Document: As part of the process of updating the ELPEP document, the PMOC has performed an independent evaluation of the minimum required cost and schedule contingencies going forward. The PMOC's recommendations were presented at several meetings with the MTACC, the last on May 21, 2015. On October 14, 2015, the PMOC provided the FTA and MTACC with an expanded basis for the PMOC's recommended minimum schedule contingencies to RSD. MTACC responded on October 27, 2015, with no exceptions taken to the PMOC proposed minimum schedule contingency values. MTACC did, however, have comments on certain bases of the PMOC's position and the PMOC is preparing a response. Additional discussion will be required to reach agreement on the cost contingency minimums.

The next ELPEP Quarterly Review Meeting with the MTACC, the FTA-RII, the SAS and ESA projects and the PMOC has been scheduled for January 21, 2016.

6.0 SAFETY AND SECURITY

In order to more accurately portray the effectiveness of ESA's current safety efforts, the PMOC initiated use of Table 6-1, below, beginning with its August 2015 Monthly Report. Previously, the PMOC only reported the ESA Lost Time injury ratio as reported in ESA's Monthly Reports. As noted in the table, however, ESA's reported Lost Time injury ratio is cumulative since the beginning of the project. As such, the PMOC believes that there was significant negative history with ESA's injury reporting and that it does not accurately reflect upon its current safety efforts. Table 6-1 indicates that ESA's Safety Program has shown consistently improving results during 2015 and the monthly ratios for both Lost Time and Recordable injuries have been lower (with an anomaly of a 4.29 Lost Time ratio in March 2015) than the BLS average injury ratios used for the year.

Table 6-1: ESA 2015 Lost Time and Recordable Injury Ratios

	Lost Time Ratio	Recordable Ratio
2015 BLS Ratio (used by OSHA)	1.80	3.20
ESA October 2015 Ratio	0.00	0.76
ESA CY2015 Ratio	0.89	1.24
ESA Reported Ratio (Cumulative since beginning of project)	0.70	1.95

Additionally, the ESA PMT did not report any significant security issues in its October 2015 Monthly Progress Report.

7.0 ISSUES AND RECOMMENDATIONS

Design: The PMT design management team needs to focus on achieving intermediate milestones in a timely fashion and working closely with the GEC to facilitate finalization of the scope of work for the remaining procurement and construction packages. The continued shifting of scope between packages and the creation of new packages has made finalizing design documents and drawings very challenging and time consuming. The PMOC continues to recommend that the PMT develop a design milestone tracking sheet for the remaining design work on the project.

Procurement: The lack of stability in the contracting strategy and Contract Packaging Plan remains a concern. The scope shifting among different packages makes it difficult to fully understand the impact of these changes to the overall ESA Project. An updated draft Contract Packaging Plan (revision 10.0) was submitted on March 28, 2014. The current CPP update (revision 10.2) was submitted on November 13, 2015, and is currently under review by the PMOC. The PMOC continues to recommend that the ESA PMT should make an effort to adhere to the current version of the CPP and minimize shifting scope for the remainder of the project.

Contract CM014B: The PMOC is concerned that the amount of unresolved questions and coordination with the CS179 contractor and field issues with the as-built work by the CM014A contract jeopardizes scheduled completion of Milestone #1. Milestone #1 is completion of the Terminal Management Center (TMC), CC-C5 (Communications Closet) and C2 Communications Room by March 5, 2016. These spaces were built by CM014A. The CM014B milestone is for completed fit-out of these three spaces.

Contract CS179: The PMOC continues to remain concerned that the backlog in overdue submittal reviews has not been significantly reduced and sustains its recommendations that ESA, the GEC, and the contractor work together to improve the review process. Although the ESA PMT had the GEC increase its review staff in 3Q2015 to reduce the submittal review backlog, the backlog continues to be an issue impacting efficient design and construction progress. This situation has already delayed completion of the contractor's design by four months to July 2016. ESA has acknowledged that continuing delays to the design completion may impact the IST and potentially delay completion of the Integrated Systems Testing. MTACC reports that the contractor's baseline schedule was approved on November 6, 2015. The PMOC has requested a copy of the CS179 approved baseline schedule in Primavera format for analysis.

Contract CH057A: During the past two months, the contractor has been awaiting final approval from MTACC on pending Change Order work already negotiated with the CM prior to beginning additional new work scope necessitated by existing field conditions. This has significantly slowed productivity over that time period. Additionally, the CH057A contract was a secondary priority to ESA PMT because its first priority (and supply of limited Force Account resources) was completion and cutover of the LIRR "H3" CIL, which was completed in November 2015. As a result of these two things, the CH057A contractor postponed delivery of its "jacked box" tunnel shield to begin excavation of the Westbound Bypass Tunnel (WBT) from October 2015 until 1Q2016. Due to its need to share limited Force Account resources with the CH053 contract, the PMOC recommends that ESA prioritize Substantial Completion for CH053 so that CH057A is the only contract that requires Force Account support, even though the PMOC understands that resources will again be shared when the CH057 contract becomes operational. Additionally, the contractor has been awaiting final approval from MTACC on pending change order work already negotiated with the CM prior to starting the work. This has significantly slowed productivity over the last two months.

Contract CM006: The contractor continues to trend behind its second recovery schedule. Currently, the contractor is now over 80 calendar days late for Milestone #2, which leads to a hand-off to the CM007 contractor. MTACC has acknowledged that, despite mitigations that are in progress, recovery may not be achievable. There is also concern because Substantial Completion of this contract is a key hand-off milestone for the CM007 contract. The inability of the CM006 contractor to successfully execute both the first and second recovery schedules may impact the CM007 contract and cause a delay to the start of some CM007 work. The PMOC previously stated that this situation could create a change from full access to the caverns to incremental access over a period of time, with resulting cost and schedule consequences. In November 2015, MTACC acknowledged that it will be negotiating the delayed access schedule change with the CM007 proposers. The cost and schedule impacts will not be known until contract award. The PMOC recommends that the ESA PMT and the contractor develop a realistic schedule revision that properly reflects the contractor's capability and capacity to perform its remaining work.

Contract CM007: The PMOC is concerned that the technical/schedule proposal due date was delayed a total of 4.5 months and the cost proposals were delayed an additional 3 weeks. This significantly reduces the time for negotiations on this very large contract that is currently on the program schedule critical path. Unable to meet its original planned award date prior to December 31, 2015, MTACC is now planning for a January 2016 MTA Board action for approval of award. Based on the MTACC's past schedule performance for negotiated

procurements, it is the PMOC's opinion that this contract will not be awarded until later in 1Q2016, at the earliest. Because the program critical path includes a significant portion of the CM007 work, the PMOC is concerned about the schedule impacts of a delayed award and NTP for the CM007 contract. Although the initial reports about a favorable cost proposal distribution are encouraging, the subsequent need to negotiate a delayed access schedule change, due to the CM006 Milestone #2 delays, will likely result in adverse cost and schedule impacts.

Project Funding: As stated in the Risk Management section below, the PMOC believes that the timing and availability of funding presents a significant schedule risk to the project. The timing of funding has already impacted the CS179 package (that was restructured with options due to funding availability) and the CM007 procurement that has been delayed to the 1Q2016 for award and Notice to Proceed. As of November 30, 2015, MTACC has not received a commitment from the NYS Capital Program Review Board to provide the funding that will permit MTACC to award the CM007 contract in 2015. The PMOC does note that MTACC is fully aware of this situation and the critical role that funding serves in the successful completion of the project. MTACC continues to work closely with the MTA finance group and keeps the FTA up-to-date on developments and issues. The PMOC previously recommended to the ESA Project Controls Group that a funding needs projection be developed along with the cash flow projection to assess the risks to the project should funding not be available in the necessary time frame. ESA has the information to develop a basic funding needs projection and has been working with the PMOC to develop a forecast tool to assist in evaluating funding risk at a more detailed level.

[REDACTED]

[REDACTED]

Project Schedule: The PMOC is concerned about the overall state of the ESA schedule, specifically Manhattan and Systems contracts. ESA does not follow its Schedule Management Plan in a number of areas, as noted in Section 5.0 of this report. The SMP update to reflect candidate revisions was just submitted in October 2015. Furthermore, the PMT has not yet developed a plan to mitigate its problems with CM007 schedule logic.

Risk Management: In the PMOC's opinion, funding availability continues to be a significant risk on the ESA project. Funding uncertainty has already resulted in the PMT's delay of the CM007 contract award until 2016 due to budget constraints and the restructuring of the CS179 contract by splitting it into a base contract with seven options, based predominately on access restraints imposed by the CM006, CM007, and CM014B packages. This will significantly increase the construction contract interface risks. This segmentation of construction packages has created multiple inter-contract interfaces and milestones. In the PMOC's opinion, the probability of successfully achieving all of them is low, and leads to the possibility of a ripple effect of delays and coordination difficulties between contracts. There is very limited opportunity, at best, for the contractors to make up any of the time lost to interface delays due to

work site time and access constraints. Should delays start to accumulate, recovery will likely not be possible. Managing inter-contract handoffs and interfaces will be challenging and represents significant MTACC-retained risks. Some of the schedule risks will be realized now because funding is not in place to fully award the three options in the CS 179 contract package scheduled for November 6, 2015. CS179 Option 2 had to be divided and Option 2B is now forecast five months later in April 2016. Access Restraints in the CS179 Contract are correlated to the contract options and the CS179 Contract will also have multiple interfaces with the future CM007 Contract. Given that this work is on the project critical path, delays in awarding the options will result in the use of program schedule contingency.

The PMOC remains concerned about the coordination risk retained by MTACC on the completion of the work in Manhattan, especially construction and testing interface management for the systems work. When combined with the extensive scope re-configuration changes associated with the Harold Interlocking work, the PMOC believes that this may create significant changes to the overall project risk profile.

The PMOC considers the major risks for the Eastside Access Program to be:

- Program Funding;
- Successful execution of dozens of hand-off interfaces across multiple contracts;
- Contractor access and work area coordination in Manhattan;
- Previous lack of approved baseline schedule on the CS179 contract [resolved in November 2015];
- Duration of integrated systems testing;
- Continued availability of adequate Amtrak and LIRR force account resources [increasing risk trend noted in 3Q2015]; and
- Continued availability of required track outages in Harold Interlocking.

The PMOC notes that although MTACC has actively engaged Amtrak to develop some specific mitigations for the last two risks and continues to work on strategies for mitigating many of the other identified risks, continued shortcomings in provision of adequate force account resources threaten to adversely impact the current Harold schedule. Many external stakeholder issues with Amtrak and LIRR will remain beyond MTACC's direct control, however, and are likely to complicate development and acceptance of the specific problem resolutions essential to completion of the project.

APPENDIX A - ACRONYMS

AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BLS	Bureau of Labor Statistics
BOH	Back of House
C&S	Communication and Signals
CCC	Change Control Committee
CCM	Consultant Construction Manager
CIL	Central Instrument Location
CLSM	Controlled Low Strength Material
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CMU	Concrete Masonry Unit
CPOC	Capital Program Oversight Committee
CPP	Contract Packaging Plan
CPR	Contractor Proposal Request
CPRB	Capital Program Review Board
EAC	Estimate at Completion
ELPEP	Enterprise Level Project Execution Plan
ERT	East River Tunnel
ESA	East Side Access
ET	Electric Traction
FA	Force Account
FFGA	Full Funding Grant Agreement
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
HSR	High Speed Rail
IEC	Independent Engineering Consultant (to MTA)
IFB	Invitation for Bid
IPS	Integrated Project Schedule

IST	Integrated System Testing
LIRR	Long Island Rail Road
MOD	Contract Modification
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority Capital Construction
N/A	Not Applicable
NTP	Notice to Proceed
NYAR	New York and Atlantic Railroad
NYCT	New York City Transit
PAC	Pneumatically Applied Concrete
PDR	Preliminary Design Review
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	ESA Project Management Team
PQM	Project Quality Manual
PVS	Plaza Vent Structure
PWE	Project Working Estimate
QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
RFI	Request for Information
RFP	Request for Proposal
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RPR	Relocated Primary Route
RSD	Revenue Service Date
RTU	Remote Terminal Unit
SC	Substantial Completion
SCADA	Supervisory Control and Data Acquisition
SCC	Standard Cost Category

SDR	Second Design Review
SMP	Schedule Management Plan
SMU	Snow Melter Unit
SSMP	Safety and Security Management Plan
SWO	Stop Work Order
TCC	Technical Capacity and Capability
TELP	Temporary Eastbound LIRR Passenger
WBY	Westbound Bypass Tunnel
YSB	Yard Services Building

APPENDIX B – TABLES

Table 1: Summary of Critical Dates

	FFGA	Forecast (F) Completion, Actual (A) Start	
		Grantee*	PMOC**
Begin Construction	September 2001	September 2001(A)	September 2001(A)
Construction Complete	December 2013	December 2022 (F)	September 2023(F)**
Revenue Service	December 2013	December 2022 (F)	September 2023 (F)

* Source – Grantee forecast Revenue Operations Date per information presented to the MTA CPOC in June 2014.

**Source –Based on PMOC 2014 schedule trending analysis representing a medium degree of mitigation.

Table 2: Project Budget/Cost Table

	FFGA			MTA's Current Baseline Budget CBB		Expenditures	
	(Millions)	(% of Grand Total Cost)	Obligated	(Millions)	(% of Grand Total Cost)	(Millions)	(% of CBB)
Grand Total Cost	\$7,386	100.0%	\$4,724	\$11,214.0	100.00%	\$6,544.3	58.36%
Financing Cost	\$1,036	14.0%	\$617	\$1,036.0	9.24%	\$617.6	59.61%
Total Project Cost	\$6,350	86.0%	\$4,107	\$10,178.0	90.76%	\$5,926.7	58.23%
Federal Share	\$2,683	36.3%	\$1,148	\$2,699.0	24.07%	\$2,015.7	74.68%
5309 New Starts share	\$2,632	35.6%	\$1,098	\$2,436.6	21.73%	\$1,763.6	72.38%
Non New Starts grants	\$51	0.7%	\$50	\$67.0	0.60%	\$66.7	99.55%
ARRA	0	0.0%	0	\$195.4	1.74%	\$195.4	100.0%
Local Share	\$3,667	49.6%	\$2,959	\$7,479.0	66.69%	\$3,911.0	52.29%

Table 3: Project Budget and Invoices as of October 31, 2015

Elements	Baseline Total Budget (June 2014)	Current Baseline Budget (October 2015)	Actual Awards (October 2015)	Paid to Date (October 2015)	Actual % Budget Paid
Construction	\$7,379,296,706	\$7,436,531,440	\$5,549,193,962	\$4,288,928,114	57.67%
Soft Costs Subtotal	\$2,798,474,304	\$2,741,239,570	\$1,692,497,496	\$1,637,806,520	59.75%
Engineering	\$720,615,810	\$720,615,810	\$670,538,002	\$655,522,825	90.97%
OCIP	\$282,613,620	\$282,613,620	\$210,470,653	\$210,056,154	74.33%
Project Mgmt.	\$972,168,644	\$972,168,644	\$695,527,208	\$657,871,946	67.67%
Real Estate	\$182,076,230	\$182,076,230	\$115,961,633	\$114,355,595	62.81%
Rolling Stock	\$202,000,000	\$202,000,000	\$0	\$0	0.00%
Project subtotal w/o Financing & RI	\$10,177,771,010	\$10,177,771,010	\$7,142,500,346	\$5,878,443,437	57.76%

Note: ESA is currently carrying the Rolling Stock Reserve as an off-line cost, not in the Budget.

Table 4: Comparison of Standard Cost Categories: FFGA vs. CBB

Standard Cost Category (SCC) No.	FFGA SCC baseline (YOE \$) M	June 2014 Re-Plan (YOE \$)M	September 2015 SSC (YOE \$) M	October 2015 SSC (YOE \$) M	October 2015 % of Re-Plan	Sep'15 to Oct '15 Change \$M	CBB Variance from FFGA %
10	1,989	3,405	3,421	3,422	100.50%	-1	72.05%
20	1,169	2,238	2,339	2,338	104.47%	1	100.00%
30	356	474	474	474	100.00%	0	33.15%
40	205	611	593	593	97.05%	0	189.27%
50	619	606	565	565	93.23%	0	-8.72%
60	165	220	219	219	99.55%	0	32.73%
70	957	210	210	210	100.00%	0	-78.06%
80	1,184	1,975	1,975	1,975	100.00%	0	66.81%
█	█	█	█	█	█	█	█
Subtotal	6,813	10,178	10,178	10,178	100.00%	0	49.39%
100	1,036	1,036	1,036	1,036	100.00%	0	0.00%
Total Project Cost (10 – 100)	7,849	11,214*	11,214*	11,214*	100.00%	0	42.87%

*This total amount does not include Regional Investment amount of \$758,260,953.

Note: Sum of rounded values for current month is less than actual summed value.

Reasons for Changes to SCC Code:

10: \$1 million increase due to funding CH057C and Force Account overruns, funding the CM005 52nd St. Trailers, and issue changes that affect contingency.

20: \$1 million decrease due to funding the CM005 52nd St. Trailers and issue changes that affect contingency.

Table 5: Quarterly ESA Planned Cash Flow- Actuals to Date and Actuals Remaining (as of 3Q2015)

Quarter/year	Construction \$(000)	Engineering \$(000)	OCIP \$(000)	Project Mgmt. \$(000)	Real Estate \$(000)	Rolling Stock \$(000)
Paid To Date	3,660,194,771	646,377,892	155,604,955	580,041,291	112,634,547	0
Remaining	3,719,144,273	74,237,918	127,008,665	392,127,353	69,441,683	202,000,000
3Q2014	209,340,620	-3,311,163	4,774,951	16,667,454	0	0
4Q2014	168,280,817	-3,290,689	4,774,951	16,667,454	75,948	0
1Q2015	134,568,200	-3,183,384	4,619,246	16,123,950	4,506,241	0
2Q2015	147,357,357	-3,290,689	4,774,951	16,667,454	4,658,137	0
3Q2015	169,688,509	-3,290,689	4,774,951	16,667,454	4,658,137	0
Remaining Planned	2,889,908,770	90,604,532	103,289,617	309,333,586	55,543,220	202,000,000
Remaining Actual	3,131,108,273	68,305,598	72,652,003	318,574,077	67,729,960	202,000,000
4Q2015	201,239,698	-3,290,689	4,774,951	16,667,454	4,658,137	0
1Q2016	193,275,933	-3,219,153	4,671,147	16,305,118	4,556,873	0
2Q2016	180,854,738	-3,290,689	4,774,951	16,667,454	4,658,137	8,666,545
3Q2016	181,988,455	-1,983,850	4,774,951	16,652,320	4,658,137	13,070,855
4Q2016	214,173,807	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
1Q2017	210,556,624	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2017	199,737,103	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2017	189,382,506	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
4Q2017	182,084,699	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
1Q2018	174,210,593	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2018	170,524,739	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2018	168,497,619	6,728,414	4,774,951	15,971,281	4,658,137	14,014,767
4Q2018	155,245,094	6,728,414	4,774,951	15,971,281	50,632	14,014,767
1Q2019	148,441,548	6,509,009	4,619,246	15,450,479	0	13,557,764
2Q2019	110,893,994	6,728,414	4,774,951	15,971,281	0	14,014,767
3Q2019	93,559,944	6,728,414	4,774,951	15,971,281	0	14,014,767
4Q2019	71,649,848	6,728,414	4,774,951	15,971,281	0	14,014,767
1Q2020	20,704,406	6,582,144	4,671,147	15,624,080	0	5,043,553
2Q2020	11,682,057	6,728,414	4,774,951	15,971,281	0	943,912
3Q2020	7,573,078	2,267,183	4,947,825	5,381,627	0	0
4Q2020	2,750,374	0	5,035,679	0	0	0
1Q2021	881,913	0	3,256,771	0	0	0
BL Subtotal	3,719,144,273	74,237,918	127,008,665	392,127,353	69,441,683	202,000,000

**Table 6: MTA ESA Project Summary by FTA Standardized Cost Categories
2014 Re-plan (\$ in Thousands)**

Standardized Cost Category	FFGA	May 2012 Re-Baseline	June 2014 Re-Plan	Awarded Value (3Q2015)	Paid To Date (3Q2015)
10- Guideway & Track Elements	\$1,513,998	\$2,943,165	\$3,405,463	\$2,721,155	\$2,108,505
20- Stations, Stops, Terminals, Intermodal	\$1,168,655	\$1,513,998	\$2,238,235	\$1,629,710	\$1,171,491
30- Support Facilities, Yards, Shops, Admin Buildings	\$356,264	\$384,583	\$474,177	\$209,999	\$205,628
40- Site Works and Special Conditions	\$205,105	\$491,341	\$610,570	\$432,778	\$435,339
50- Systems	\$619,343	\$698,296	\$605,592	\$416,503	\$284,396
60-ROW, Land, Existing Improvements	\$165,280	\$203,639	\$219,397	\$153,283	\$151,667
70- Vehicles	\$493,982	\$674,372	\$209,938	\$7,838	\$5,549
80- Professional Services	\$1,184,000	\$1,648,606	\$1,975,398	\$1,571,236	\$1,515,866
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Sub-Total	\$6,349,900	\$8,708,000	\$10,177,771	\$7,142,502	\$5,878,441
Estimated Financing Cost	\$1,036,100	\$1,116,000	\$1,036,000	\$617,607	\$617,607
Total	\$7,386,000	\$9,824,000	\$11,213,771	\$7,760,109	\$6,496,048

Table 7: ESA Core Accountability Items

Project Status:		Original at FFGA	Current*	ELPEP **
Cost	Cost Estimate	\$7.368 billion	\$10.178 billion	\$8.119 billion
Schedule	RSD	December 31, 2013	December 2022	April 30, 2018
Total Project Percent Complete	Based on Invoiced Amount	59.6 (ESA Figure)		
	Based on Earned Value ±	0.84 (PMOC Calculation)		
Project Performance Rate (Since 2014 ESA "Re-Plan")				
Major Issue	Status		Comments	
Major Procurements Delays	<p>CM014B was advertised in May 2014; ESA did not make its forecast award date of November 2014. CM014B Award and NTP were issued February 2, 2015.</p> <p>ESA also did not make its forecast date of November 2014 for advertising CM007. The proposal due date for CM007 was extended several times for a total delay of 4.5 months. Award of CM007 will be contingent upon funding availability.</p>		<p>PMOC remains concerned about the potential project schedule impacts of procurement delays on these two packages, CM014B and CM007, since they are on near critical and critical paths, respectively, for the project.</p>	
Project Schedule	<p>MTACC presented a new baseline ESA Project Schedule to the MTA CPOC in June 2014, with an RSD in December 2022. This schedule incorporates 22 months of Program level contingency. It should be noted that there have been significant changes in elements comprising the baseline schedule, including full re-sequencing of the Harold work and restructuring of the CM007 package.</p>		<p>CM006 has experienced significant delays and has yet to meet the approved recovery schedule production targets. Handover milestones for the CM007 and CS179 contracts are trending late and this may have an impact on the ESA critical path.</p>	
Harold Re-planning	<p>The Harold baseline schedule that formed the basis of the Program schedule presented to the CPOC in June 2014 is no longer valid. Based on current issues with slow progress and inadequate force account support, ESA completed a Harold schedule re-sequencing in December 2014, also known as "ESA First," that advances work elements required for the new LIRR service to GCT and delays the FRA funded High Speed Rail Work beyond 2017.</p>		<p>Work on Harold Interlocking is subject to influences outside of the control of ESA. Issues with the level of Amtrak force account support have returned and this could further delay completion of the Harold Interlocking work.</p>	

*Current Budget was approved by MTA CPOC in June 2014.

** 2010 Enterprise Level Project Execution Plan (ELPEP) reflecting medium level of risk mitigation, excluding financing cost of \$1,116 million. This is currently being re-evaluated.