THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE INSPECTOR GENERAL

Statutorily Mandated Reviews of
Central Artery/Tunnel Project
Building Construction Contracts

1994 - 1996

Robert A. Cerasoli
Inspector General
December 1996
December 1996

His Excellency the Governor
The Honorable President of the Senate
The Honorable Speaker of the House of Representatives
The Honorable Chairman of the Senate Ways and Means Committee
The Honorable Chairman of the House Ways and Means Committee
The Honorable Chairman of the Senate Post Audit and Oversight Committee
The Honorable Chairman of the House Post Audit and Oversight Committee
The Directors of the Legislative Post Audit and Oversight Bureaus
The Secretary of Administration and Finance
Members of the General Court

Omnibus ad quos praesentes literae pervenerint, salutem.

This report consolidates the seven statutorily mandated reviews I have conducted since 1994 when the Legislature first stipulated that no Central Artery/Tunnel (CA/T) Project building construction could begin until my Office had completed a review. Specifically, Section 11 of Chapter 102 of the Acts of 1994 (the transportation bond bill) included the following language:

[The Massachusetts Highway Department] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for
construction shall begin prior to the review of the inspector general of the commonwealth.\(^1\)

The 1996 transportation bond bill contained similar language pertaining to CA/T-related buildings, but expanded my responsibility significantly by directing that "no construction . . . shall begin prior to the review and approval of the inspector general of the commonwealth." (Section 67 of Chapter 205 of the Acts of 1996; emphasis added.)

I have alerted the CA/T Project Director to the thematic concerns of my prior reviews and summarized the corrective measures Massachusetts Highway Department should take:

- **Cost Containment**

  Conduct cost containment reviews such as value engineering and claims avoidance reviews prior to the completion of a final design, well before a construction contract goes out to bid.

- **Cost and Design Changes**

  Identify and explain all cost estimate increases that occur between the time of Division of Capital Planning and Operations (DCPO) design certification and the creation of the construction contract bid package. Obtain DCPO design certification or recertification when costs or design elements change significantly.

- **Change Orders**

  Minimize use of no-bid change orders for significant construction and contract scope changes; provide a written justification, a clearly defined scope of work, and a fixed price.

- **Mitigation Agreements**

  Define clearly mitigation commitments in construction contracts before their award to avoid change notices and contract cost increases.

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\(^1\) Section 115 of Chapter 273 of the Acts of 1994, another transportation bond bill, contained identical language.
Federal Funding

Obtain federal funding approvals before the construction bid cycle begins and take every reasonable step to maximize federal funding.

I discuss these concerns -- as well as the information I require in order to fulfill the new legislative mandate -- in a letter to the CA/T Project Director (November 8, 1996) which appears in the first section of this report. The remaining sections of this report contain key correspondence between my Office and the Project relating to the seven reviews I have conducted.

CA/T Project management has committed to working closely with this Office to help ensure that my staff can complete the mandated reviews in a thorough and timely manner. I will continue to keep you apprised of the results of these reviews and look forward to the continued cooperation and assistance of the Massachusetts Highway Department.

Sincerely,

Robert A. Cerasoli
Inspector General
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SECTION ONE

Review Process Summary
November 8, 1996

Peter M. Zuk, Director
Central Artery/Tunnel Project
One South Station; 4th Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

Thank you for your letter of September 3, 1996 regarding section six of Chapter 205 of the Acts of 1996 which stipulates that no contractual agreement can begin for the construction of Central Artery/Tunnel (CA/T) Project ventilation buildings, utility facilities and toll booths prior to this Office’s review and approval. We appreciate your commitment to keeping the Project on schedule and we look forward to working with you and your staff to ensure that this Office is able to fulfill its statutorily mandated review in a timely and responsible manner.

The purpose of this letter is twofold: (1) to advise you of the information we require in order to conduct a thorough review; and (2) to alert you to the types of issues that must be addressed before this Office will grant approval to proceed. Our ability to complete the reviews in a timely manner depends upon the Project’s willingness to provide complete information and prompt access to staff. Without such cooperation and assistance, my staff will be unable to meet the Project’s schedule.

In order to allow time for you to respond to our review, we plan to complete our review before the Project puts the contract out to bid. This will avoid contract addenda and delays while the Project incorporates our recommendations in the bid package. We also plan to monitor the bid process and eventual contract award.

To facilitate the review process, please provide the most recent list of all CA/T contracts that will require our review as well as the current bid-cycle schedule for these contracts. In addition, we will require the following information as soon as it is available for each contract subject to our review:

...
Pre-advertisement

- copy of the preliminary design feasibility study provided to the Division of Capital Planning and Operations (DCPO)
- copies of all signed DCPO and MassHighway feasibility certifications
- copies of all value engineering studies
- copies of all constructability reviews
- copies of all associated mitigation agreements
- access to the project engineer
- access to the project engineer's files
- copies of all correspondence to and from the Federal Highway Administration (FHWA) regarding the approval and funding for the contract
- copy of plans, specification, and estimates and all draft bid package material

Bidding

- contract bid package including all addenda as prepared
- proof of contract advertisement
- list of all firms/entities receiving the bid package
- minutes of the pre-bid meeting
- list of all pre-bid meeting attendees

Bid award

- copy of the notice of award for the reviewed contract

Post award

- change order and contract modification packages as requested

To date, this Office has completed seven statutorily mandated reviews of CA/T Project building contracts. We would like to take this opportunity to summarize the key findings and concerns identified in reviews completed to date:

1) Cost Containment: The Project should conduct a cost containment review prior to the completion of a final design, well before a construction contract goes out to bid. We have recommended that the Project perform a value engineering review during final design. Value engineering entails an objective review of a project’s design and proposed construction methods

1 We request to be placed on the bidder’s mailing list for all contract-related documents.
in an attempt to meet or exceed all requirements for quality, reliability, safety, and aesthetics at the lowest possible construction or maintenance costs. In our opinion, the cost and complexity of certain CA/T buildings and facilities merits individual value engineering studies. The Project has only conducted value engineering studies early in design or during preliminary design. Value engineering studies conducted during preliminary design might have touched generally upon CA/T building designs but a separate study during final design can address details and assumptions not available during preliminary design. The September 1995 management study prepared by Peterson Consulting at the request of MassHighway stated: "The value engineering process should also be expanded to include the final design process." We agree.

In addition to value engineering studies, this Office recommends that the Project conduct comprehensive claims avoidance reviews at the completion of final design. Claims avoidance reviews reduce the Project's exposure to change notices, contractor claims, and contract disputes. Although B/PB is contractually obligated to perform these reviews, B/PB has not reviewed every bid package. Proactive and aggressive cost containment will serve the best interests of the Project and the Commonwealth. MassHighway should ensure that B/PB performs both value engineering and claims avoidance reviews.

2) Cost Changes: Five of the seven reviews performed by this Office disclosed dramatic cost estimate increases during the period between Division of Capital Planning and Operations' (DCPO) design certification and the creation of the construction bid package. In most cases, the Project has been unable to satisfactorily justify these cost increases. For future building construction, we will expect the Project to identify and explain cost increases in writing. The Project has stated its commitment to controlling construction costs. Greater attention to cost escalations during design will help the Project achieve this goal.

3) Mitigation Agreements: Some contracts we reviewed included design elements for third party mitigation, such as a new electrical substation for Boston Edison. After reviewing contract documents, we did not understand what mitigation commitments the Project had mandated and why. MassHighway should clearly define these commitments before the award of a contract in order to avoid change notices and increased contract costs.

4) DCPO Certification: We have criticized the Project's failure to obtain certification or recertification - when costs or design elements change significantly - from DCPO for CA/T Project building designs. M.G.L. c.29, §7K requires DCPO certification before a state agency enters into a contract for any design or construction services for a state building. The intent of this certification is to ensure that the Commonwealth has adequately defined the scope and requirements of a facility before advancing to final design. The certification ensures that DCPO
has reviewed project costs and schedule and that the owner agency has appropriately identified its current and long-term needs. The owner agency must also certify that the design under review accurately reflects the needs of the agency. The DCPO certification requirement is a safeguard established as a result of the Ward Commission reforms instituted in the early 1980’s in response to rampant corruption in public construction.

5) Federal Funding: In several cases, we have commented on apparent FHWA reluctance or refusal to approve certain design and mitigation elements. We expressed concern about the Commonwealth’s liability for the entire cost of certain design and mitigation elements when FHWA approval is not received prior to the award of a construction contract. The Project should obtain FHWA approvals before the bid cycle begins and take every reasonable step to maximize FHWA funding.

6) Change Notices: In two instances, the Project has constructed public buildings through change notices (PCNs) to other construction contracts. We have consistently objected to the Project’s practice of using change orders for significant construction and contract scope changes. MassHighway should know, well in advance, when the construction of a building will be necessary and should plan accordingly. MassHighway should not use PCNs to remedy inadequate planning. If MassHighway chooses to use PCNs, we expect MassHighway to prepare a written justification for the PCN and clearly define the scope of work for the contractor. We plan to review the change notices and contract modifications authorizing the construction of Project buildings.

We have also stated that under M.G.L. c.7, PCNs (which eventually become contract modifications) must include a fixed price, whenever possible, before final approval and before work can begin. Also, Chapter Seven requires that the contractor submit certified price and cost information for PCN negotiations.

7) Modular Buildings: In one case, we understood that the Project planned to use modular buildings for a temporary facility. MassHighway disagreed with our interpretation, stating that the planned buildings did not meet the statutory definition of a modular building. Nevertheless, this Office reiterates its position that M.G.L. c.149, §44E requires the procurement of modular facilities through the Commonwealth’s competitive process. The Project should adhere to Chapter 149 when and if it has the need to procure modular buildings in the future.
We look forward to receiving a revised timetable of CA/T building projects requiring approval by this Office. We will make every attempt to complete these upcoming reviews in a timely manner and look forward to working with you and your staff. My point of contact for these reviews will continue to be Neil Cohen, Deputy Chief for Contract Audit and Review.

Sincerely,

Robert A. Cerasoli
Inspector General

cc: CA/T Project Oversight Coordination Commission
Hon. Stanley C. Rosenberg, Chairman, Senate Ways and Means Committee
Hon. Paul R. Haley, Chairman, House Ways and Means Committee
Hon. Robert A. Havem, Co-Chairman Joint Committee on Transportation
Hon. Thomas S. Cahir, Co-Chairman, Joint Committee on Transportation
James J. Kerasiotes, Secretary, Executive Office of Transportation and Construction
Kevin J. Sullivan, Commissioner, Highway Department
William Flynn, Deputy Project Director
Lark J. Palermo, Commissioner, DCPO
Virginia Grieman, Senior Project Counsel
September 3, 1996

The Honorable Robert A. Cerasoli
Inspector General
Office of the Inspector General
One Ashburton Place
Boston, MA 02108

Re: CA/T Contract Reviews

Dear Mr. Cerasoli:

As you know, the recently enacted Transportation Bond Bill provides that no contractual agreement for construction of CA/T Project ventilation buildings, utility facilities and toll booths shall begin prior to the review and approval of the Inspector General.

I look forward to working with you to successfully implement this process. I'm sure you realize, based on past experience with the Project, the importance of schedule. To that end, the Project will forward to you all information relevant to your obligations under this section and establish a date by which your approval must be received in order to meet our construction schedule.

In order to successfully implement this process, I suggest that you appoint a representative of your office to coordinate these reviews. My point of contact will be Virginia Greiman of my legal staff.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

[Signature]
Peter M. Zuk
Project Director

PMZ/WJS/jac

AD-2.4.2
096-2275
SECTION TWO

Review No. 7

Vent Building No. 3 (C17A3)
May 3, 1996

Peter M. Zuk, Director  
Central Artery/Tunnel Project  
One South Station; Fourth Floor  
Boston, Massachusetts 02110

Dear Mr. Zuk:

My staff has conducted a statutorily mandated review of documents relating to the Central Artery/Tunnel (CA/T) Project's pending C17A3 - Vent Building No. 3 construction contract. The Project opened the bids for this contract on April 30, 1996. The Project estimated this contract to cost approximately $77 million. The vent building will be located on Atlantic Avenue between Russia Wharf and the Harbor Plaza buildings in downtown Boston. This is one of at least seven vent buildings the Project plans to construct to provide ventilation for the underground Central Artery roadway.

Our review of documents provided by the Project, including contract bid documents (plans, specifications, and estimates), construction contract documents, Division of Capital Planning and Operations (DCPO) certification documents, and Project right-of-way files, has disclosed that MassHighway did not ensure the use of two important cost containment measures, and that the estimated Vent Building No. 3 contract cost increased significantly. In addition, we found that inadequate planning and a complicated right-of-way agreement have the potential to increase Project costs in the future. Our review identified the following concerns:

1) Cost Increases: Between June 1992 and December 1995 the estimated cost of this contract increased by $28 million -- approximately 60 percent -- from $49 million to $77 million. The Project provided only a vague explanation for this staggering price change, stating that inflation and "future cost escalation" accounted for about one-third of the cost increase, the incorporation of a temporary slurry wall accounted for another one-third, and "design development and results from the differences between a conceptual plan and estimate vs. a detailed plan and estimate" accounted for the remaining one-third. According to Project staff interviewed by this Office, at the time the preliminary design study for Vent Building No. 3 was

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1 Section 11 of Chapter 102 and Section 115 of Chapter 273 of the Acts of 1994 state in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.

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submitted to DCPO for certification, the Project did not have complete estimates for all projected costs and knew that costs would increase as "design development" continued.

I am troubled by the Project's apparent disregard for this major statutory safeguard against waste in public construction. The Ward Commission found that inaccurate pre-design cost estimates contributed to waste in Massachusetts public construction projects. The requirement that a certification study be prepared for public buildings at the pre-design stage constituted a critical component of the Ward Commission reforms and was aimed specifically at ensuring accurate cost estimates, among other necessary elements of cost-conscious design and construction. Accordingly, M.G.L. c.29, §7K requires that certification studies "provide an accurate estimate of the project requirements, cost and schedule." DCPO's Guidelines for Studies of Building Projects Prepared for State Agencies, Building Authorities and Counties further prescribes the form and content of study cost estimates.

Section 26B of Chapter 29 of the General Laws requires that before the Comptroller can authorize the expenditure of funds for the construction of Vent Building No. 3, the executive head of the agency administering this project must certify in writing that the construction work can be accomplished without substantial deviation from the study DCPO certified for the building. Current construction plans for Vent Building No. 3 deviate substantially from the study certified by DCPO in that the cost estimate for the building has increased by $28 million -- approximately 60 percent -- from the estimate contained in the study. Please provide this Office with a copy of the statement MassHighway has or will submit to the Comptroller certifying that the construction of Vent Building No. 3 will be completed without substantial deviation from the 1992 study. Alternatively, please provide a copy of DCPO's certification of any updated study containing the vent building's significantly increased cost estimate.

2) Claims Avoidance: Project staff could not recall and did not provide documents by the date of this letter to show whether the Project performed a claims avoidance review for Vent Building No. 3 as required in Project Procedure 229. The claims avoidance review, which is intended to reduce the Project's exposure to change orders, contractor claims, and contract

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2 In Volume 7 of its 1980 final report to the Legislature, the Ward Commission noted:

Design projects with inadequate programs are often beset by costly program changes as the user agency tries to decide what it really wants. Changes in the scope, cost, or even function of a project can be made during design, sometimes on quite a large scale, without anyone having to justify or take responsibility for the changes...

One of the major benefits of thorough and clear programming is in improved cost estimating. Cost estimates cannot be accurate when no program exists that adequately defines the project and the user's needs. The preparation of an adequate program forces the user agency to articulate its needs; it creates a permanent record of these goals and needs to which the agency may be held, or to which later plans and estimates may be compared; and, finally, it vastly improves the initial cost estimates (conceptual estimates) that are made in the planning stages.
disputes, is required under MassHighway’s contract with B/PB. MassHighway should ensure that B/PB performs this part of the Project’s cost containment program for all future contracts.

3) **Value Engineering:** The Project did not conduct a specific value engineering study for this contract to identify potential cost savings. Project staff interviewed by this Office have stated that recommendations from value engineering studies performed for other parts of the Project were applied to the Vent Building No. 3 design to generate some estimated savings. However, Project staff could not recall a specific dollar amount for the savings.

Value engineering, another essential element of the Project’s cost containment effort, entails an objective review of a project’s design and proposed construction methods in an attempt to meet all requirements for quality, reliability, safety, and aesthetics at the lowest possible construction or maintenance costs. As mentioned by this Office in previous Chapter 102 reviews, the cost and complexity of the Project’s vent buildings merit separate value engineering studies. A study for a specific vent building would develop more specific recommendations than a study which simply includes the vent building as one portion of the review. A value engineering study should have been conducted during final design because the potential for cost savings in the design of these multi-faceted buildings might have been significant. The September 1995 management study authorized by MassHighway and prepared by Peterson Consulting Inc. stated: "The value engineering process should also be expanded to include the final design process." I continue to recommend value engineering studies for future vent building designs.

4) **Inadequate Planning:** MassHighway has committed to develop "certain Public Amenities and Related Improvements," and develop, construct, and complete the Atlantic Avenue wharf to replace the existing wharf and retaining wall. However, the pending construction contract and contract drawings reviewed by this Office make no reference to wharf or retaining wall demolition, construction, or reconstruction or other site improvement efforts, and Project staff have told this Office that, as yet, the Project has no firm plan for the award of this work. Current Project plans for improving the land near the vent building site should not be added to this vent building contract later as no-bid change order work. MassHighway’s lack of planning could lead to added costs, schedule delays, and confusion later. I suggest that this work be performed under a separately bid contract that conforms to all applicable state laws.

5) **Boston Edison Company:** The Project elected to build Vent Building No. 3 on the site of a Boston Edison substation, a decision which appears to have resulted in more than $43 million in right-of-way and mitigation costs. This mitigation has included obtaining a new parcel of land for Boston Edison and constructing a new, enclosed substation for Boston Edison on that site. The Project has claimed that a net estimated savings of more than $10 million in construction and other costs will accrue to the Project from this settlement. Project documents

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3 MassHighway’s February 1996 Financing Plan for the CA/T Project identifies value engineering as an important part of the Project’s cost containment effort.
are unclear as to how the savings were estimated. This Office intends to further analyze the accuracy of this savings estimate and complete a more thorough review of MassHighway’s settlement with Boston Edison. I request that the Project provide full cooperation and assistance to my Office, including complete and timely access to Project files and Project staff.

In conclusion, for the contract in question MassHighway has neglected to fully perform at least two important cost containment reviews, and has not adequately explained a significant increase in the estimated contract cost. In addition, MassHighway should keep a close watch on the construction, mitigation, and right-of-way costs associated with its agreements with Boston Edison. MassHighway has already spent or has committed to spend $43 million on these agreements and more expenses are likely to follow. The Federal Highway Administration has expressed concern about these costs. It is incumbent upon MassHighway to ensure that all Project expenditures are prudent and necessary.

This is one of the many reviews my staff has conducted and will continue to conduct under the mandate of the Acts of 1994. We have a responsibility to comment on Project actions and call your attention to matters that, if unresolved, could result in cost overruns, statutory violations, and other potential fraud, waste, or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours.

Sincerely,

Robert A. Cerasoli
Inspector General

cc: Secretary James J. Kerasiotes
Commissioner Laurinda T. Bedingfield
Deputy Director William Flynn
Deputy Chief Counsel William Smith
Hon. Stanley C. Rosenberg, Chairman, Senate Ways and Means Committee
Hon. Robert A. Havern, Co-Chairman, Joint Committee on Transportation
Hon. Thomas M. Finneran, Chairman, House Ways and Means Committee
Hon. Thomas S. Cahir, Co-Chairman, Joint Committee on Transportation
Commissioner Lark J. Palermo, Division of Capital Planning and Operations
MassHighway’s Response

Vent Building No. 3 - Contract C17A3

MassHighway has not submitted to this Office a written response to this review.
SECTION THREE

Review No. 6
Temporary Toll Plaza and Emergency Response Station (C07A1)
August 10, 1995

Peter M. Zuk, Director
Central Artery/Tunnel Project
One South Station: Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

I have conducted a review of documents pertaining to the Central Artery/Tunnel (CA/T) Project’s planned construction of a temporary toll plaza and emergency response station to serve the Third Harbor Tunnel. The documents my Office received from your staff included a June 23, 1995 letter from the Highway Department’s Director of Operations for the CA/T Project to the Massachusetts Turnpike Authority’s (MTA) Director of Operations, allocating responsibility for the project between the MTA and Modern Continental/Obayashi, the contractor holding the CATA contract on the CA/T Project. This project requires my review under Chapters 102 and 273 of the Acts of 1994 (The Transportation Bond Bill) because it is a toll booth and utility building construction project involving a substantial amount of work by the CAT contractor.

The documents submitted to my Office raise the following concerns:

- The Highway Department did not follow the public bidding laws in awarding work on this project.

All of the work on the temporary toll plaza and emergency response station not to be handled by the MTA has been directed to Modern Continental/Obayashi via a change order to CA/T contract CAT 1, a roadway contract awarded under M.G.L. c.30, §39M. Procurement of modular structures such as the trailers and toll booths that will make up this temporary facility.

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1 Section 11 of Chapter 102 and Section 115 of Chapter 273 of the Acts of 1994 state in pertinent part:

[The Highway Department] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.
as well as all work ordinarily and customarily performed on the modular buildings at the building site, must be handled through the competitive procedures contained in M.G.L. c.149, §44E. By assigning this building project to Modern Continental/Obayashi through a no-bid change order to a roadway contract, the Highway Department has violated the rule established in Modern Continental Constr. Co. v. Lowell, 391 Mass. 829 (1984), that public building construction projects may not be awarded under M.G.L. c.30, §39M.

- The Highway Department has authorized commencement of work on the project without making the contractor's responsibilities clear.

The CA/T project provided this Office with copies of several documents issued by the Highway Department directing Modern Continental/Obayashi to perform work on the temporary toll plaza and emergency response station:

-- March 1995 pending change notice (PCN) authorization 198 to contract C07A1.

-- May 9, 1995 extra work order/contract modification 76-1A. Correspondence attached to the May 9 modification states that this document "supersedes the original MOD 76-1A forwarded by B/PB on April 18, 1995 and executed by MC/O on April 19, 1995."

-- June 7, 1995 PCN authorization.

While all of these documents purport to describe the work assigned to Modern Continental/Obayashi on this project, the descriptions contained in the documents are confusing and differ from one another. For example, the May 9 contract modification lists the structures to be procured, including two electrical transformers and one toll booth. The June 7 PCN authorization increases the number of required toll booths to two, while the June 23, 1995 letter allocating responsibilities between the contractor and MTA indicates that only one electrical transformer will be necessary. Another example of the changing scope of work on this project concerns the toll booth canopies. Neither the March PCN authorization nor the May contract modification mentioned toll booth canopies; however, the MTA's Director of Operations noted in a May 24, 1995 letter to the Project's Director of Operations that the toll booth canopies are "essential to the safe and efficient operation of the toll plaza area." The June PCN authorization included two canopy structures as part of the description of the required work. In spite of these changes to the scope of work, the cost of the work remained the same in the May and June PCNs.

Even taken individually, the documents fail to describe clearly the scope of work to be undertaken by the contractor. For instance, the March and June PCN authorizations each include
vague provisions regarding the change, stating that the contractor shall "[f]urnish all plant, labor, technical and professional services, supervision, materials and equipment (other than materials and equipment specified as by others)"(emphasis added) without specifying what will be provided by "others," or who those "others" will be. In addition, these two documents each direct the contractor to perform "all actions necessary and required . . . including but not limited to . . ." (emphasis added) a list of tasks. Open-ended scopes of work make it impossible to determine an accurate price for the change.

These vague and conflicting descriptions of the work to be performed by the contractor give the impression that the Highway Department authorized the commencement of work on a construction project before it decided what that project entails or who will be responsible for what. Such a lack of planning may lead to cost overruns and delays. In addition, without a solid, detailed scope of work, the Highway Department will have no basis for holding the contractor accountable.

- The contractor's cost estimate appears to be too high.

The contractor's $682,629 cost estimate is apparently excessive in light of facts revealed by the documents provided by the Project. First, the contractor's proposed charge for the emergency response station trailer deck appears to be too high. The contractor's cost estimate breaks down the cost of the handicapped ramps, stairs and decks for the toll support trailer and the emergency response station trailer. This breakdown shows approximately $32,000 of work on each trailer for construction, sanding and painting or staining the ramps, stairs and deck. The quantities for the paint and stain for the emergency response station deck, however, indicate that this deck will be half the size of the toll support trailer deck. It follows that the emergency response station trailer deck should cost substantially less than the toll support trailer deck.

Moreover, the documents provided to this Office call into question whether a ramp and deck will even be built for the toll support trailer, and whether a ramp will be built for the toll booth itself. An internal Bechtel/Parsons Brinckerhoff (B/PB) memorandum dated April 28, 1995 states that according to the MTA, handicapped accessible ramps are not required for "the toll facility." If this means that no ramp will be built for the toll booth, then the contractor's estimate of $10,395 for this item should be stricken. If the Project intends not to build a ramp and deck for the toll support trailer, then the contractor's cost estimate should be reduced further by the approximately $44,000 total ($32,000 plus approximately $12,000 for steel plates and rails) for this work. I also note that the contractor's estimate of $44,000 for a 56' x 9' deck for the toll support trailer seems excessive.

In addition, the April 28 memorandum contains the statement that the MTA has tentatively agreed to provide the uninterruptible power supply. The June PCN says the MTA will provide the uninterruptible power supply, indicating that the tentative agreement became final.
Accordingly, the Project should strike Modern Continental/Obayashi's $33,000 estimated charge for furnishing power.

- The project will be constructed without federal aid.

A March 27, 1995 letter from the Federal Highway Administration to the CA/T Project denies federal aid participation for the temporary toll facility and emergency response station. The letter states, "[w]e have been supportive of the 'Early Opening' concept with the understanding that the 'Early Opening' would be accomplished with the use of essentially the permanent facilities. This PCN, however, provides for temporary work at an additional cost." I, too, am concerned that poor planning on the CA/T Project is resulting in charges for the design and construction of temporary facilities that will have to be rebuilt as permanent structures.

This is one of many reviews that I will conduct under the mandate of the Acts of 1994. I have a responsibility to comment on Project actions and call your attention to matters that, if unresolved, could result in fraud, waste or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours.

Sincerely,

Robert A. Cerasoli
Inspector General

cc: James J. Kerasiotes, Secretary of Transportation
    Laurinda T. Bedingfield, Commissioner, Highway Department
    William Flynn, Deputy Project Director, Central Artery/Tunnel Project
    Senator Thomas Birmingham, Chairman, Senate Ways and Means Committee
    Representative Thomas M. Finneran, Chairman, House Ways and Means Committee
    Lark J. Palermo, Commissioner, Division of Capital Planning and Operations
MassHighway’s Response
Temporary Toll Plaza and Emergency Response Station - Contract C07A1 - Change Notice No. 198

MassHighway responded to this review by letter of February 1, 1996. The Inspector General appreciates that MassHighway "took [our] . . . advice into account in constructing these facilities . . . ." and may revisit the issue if it arises in future reviews. This Office, however, reiterates its finding that MassHighway did not make the responsibilities of the contractor clear in the change order documents. MassHighway has disagreed and stated: "If only a portion of all the various letters, memorandums, meeting minutes, Part-I Modifications, PCN authorizations, request for proposals, proposals, and other documents regarding PCN-198 are taken into consideration, an incomplete understanding of the actual design development process could result." MassHighway failed to provide many of the documents it cited in its response. As a result, this Office could not incorporate the information allegedly contained in these documents into the review. The documents that were provided to this Office support the finding. For the remaining two findings, MassHighway concurred that the initial cost estimates appeared high and remained confident that the Federal Highway Administration would fund the change order work.
February 1, 1996

Mr. Robert A. Cerasoli
Inspector General
One Ashburton Place
Boston, MA 02106

Re: Chapter 102 Review/Temporary Toll Facilities

Dear Mr. Cerasoli:

I am writing in response to your letter of August 10, 1995, concerning your office’s review, pursuant to c. 102 and c. 273 of the Acts of 1994, of the CA/T Project’s construction of a temporary toll plaza and temporary emergency response station required for the opening of the Ted Williams Tunnel.

We took your advice into account in constructing these facilities as part of our highly successful effort to open the Ted Williams Tunnel on December 15 of last year. I thought it would be helpful to both of our offices, however, to respond to each of the specific concerns raised in your review:

Review Comment: The Highway Department did not bid this work as a separate contract under c. 149, §44E, the bidding procedures for modular buildings.

Response:

M.G.L. c 149, §44A (1) defines "Modular Building" as follows:

a pre-designed building or units of a pre-designed building assembled and equipped with internal plumbing or electrical or similar systems prior to movement to the site where such units are attached to each other and such building is affixed to a foundation and connected to external utilities; or any portable structure or with walls, a floor, and a roof, designed or used for the shelter of persons or property, transportable in one or more sections and affixed to foundation and connected to external utilities.

The temporary toll facility work was appropriately added to the C07A1 scope of work as a change order. The C07A1 temporary toll facilities are trailers, not buildings, modular or otherwise, and therefore do not fall under c. 149, § 44E. These temporary facilities are analogous to a resident engineer’s field office,
routinely required to be supplied by contractors bidding on c. 30, § 39M highway contracts. Directing the Co7A1 contractor to procure the temporary toll facilities was both cost effective and appropriate.

**Review Comment:** The Highway Department authorised the commencement of work on the project without making the Contractor's responsibilities clear.

**Response:**

This section of your letter indicates that three of the documents provided to your office (March 1995 authorization for PCN-198; Modification 76-IA; and the June 7, 1995 PCN-198 authorization) contained descriptions that are "confusing and differ from one another."

We disagree. The June 7, 1995 authorization of PCN-198 differs from the March 1995 authorization of PCN-198 because of the changes to the scope of work that were the result of the design development that occurred between March and June. The June 7, 1995 authorization superseded the March 1995 authorization in its entirety. The authorization amount of the revised PCN remained the same as the original PCN because of the offsetting effects of added and deleted work.

Neither of the two PCNs nor the corresponding requests for proposals modified the Contract. Contract Modification 76-IA differs from each of the PCNs because the purpose of the Part-I Contract Modification is different from that of the PCN authorizations and requests for proposals. Contract Modification 76-IA provided the Contractor with direction to proceed with the preparation of shop drawings and provided a budget and conditions for proceeding with the procurement of the T.E.R.S. Trailer, sign support structures, and electrical transformers.

If only a portion of all of the various letters, memorandums, meeting minutes, Part-I Modifications, PCN authorizations, request for proposals, proposals, and other documents regarding PCN-198 are taken into consideration, an incomplete understanding of the actual design development process could result. When all of the documents regarding PCN-198 are reviewed together, and in chronological order, a well-ordered design development process is apparent.

The following is a chronological listing of the changes that occurred as a result of design development and coordination efforts.
between the CA/T Project, the MHD, and the MTA regarding the temporary toll plaza and temporary emergency response station:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 20, 1995</td>
<td>Initial authorization of PCN-198</td>
</tr>
<tr>
<td>April 18, 1995</td>
<td>Initial proposal received from the Contractor. Proposal excluded the cost of furnishing the temporary toll plaza support trailer. At preliminary scoping sessions, the Contractor was advised of the intent to transfer the responsibility of procuring the trailer from the CA/T to the MTA.</td>
</tr>
<tr>
<td>April 19, 1995</td>
<td>Decision to transfer the responsibility for providing the temporary toll plaza support trailer from CA/T to MTA was confirmed. The responsibility for setting the trailer and constructing the ramps, stairs, and decks (included in the Contractor's April 18, 1995 proposal) was also transferred from the CA/T.</td>
</tr>
<tr>
<td>May 9, 1995</td>
<td>Final version of MOD 76-1A signed by the Contractor. This corrected version replaced an earlier version signed by the Contractor on April 19, 1995.</td>
</tr>
<tr>
<td>May 24, 1995</td>
<td>One additional lane and one additional toll booth were added on Ramp E-T to facilities traffic flow and provide for additional manual collection of tolls. The added lane and toll booth resulted in the addition of the following: one impact attenuator; one cantilever sign structure and additional signs; approximately 220 linear feet of precast jersey barriers; and approximately 800 linear feet of pavement markings.</td>
</tr>
<tr>
<td>May 24, 1995</td>
<td>Requirement for 2 canopy structures, is added to CA/T scope. The canopies cover the roadway and toll booth at the location of each toll booth.</td>
</tr>
<tr>
<td>June, 1995</td>
<td>One 15KVA transformer at the toll plaza support trailer was eliminated and the responsibility for providing the uninterruptible power supply (UPS) within the trailer was transferred from the CA/T to the MTA (original requirement: one 15KVA transformer @ T.E.R.S. trailer; one 15KVA transformer and one 75KVA transformer at the temporary toll plaza support trailer).</td>
</tr>
<tr>
<td>June 7, 1995</td>
<td>Reauthorization of PCN-198 (PCN-198 Rev. 1 supersedes PCN-198 in its entirety).</td>
</tr>
<tr>
<td>June 23, 1995</td>
<td>Conduit for fire alarm and telephone cables servicing the temporary toll plaza support trailer are added to the CA/T Scope of Work (cable pulling to be performed through existing NYNEX force account). Conduit was not included in original C22A4 Contract scope.</td>
</tr>
<tr>
<td>July 21, 1995</td>
<td>MOD 76-1A approved by MHD.</td>
</tr>
<tr>
<td>August 25, 1995</td>
<td>Revised cost proposal received from the Contractor.</td>
</tr>
</tbody>
</table>
PCN-198 has been finalized and the facilities are constructed. The final negotiated price for PCN-198 (Mod 76) is $639,344.07.

Review Comment: The Contractor's Cost estimate appeared to be too high.

Response:

We concur that elements of the Contractor's Cost Estimate were too high and that the estimate included cost of work that was subsequently eliminated from the scope of work of the PCN. However, the cost estimate referred to in your letter is actually the contractor's initial proposal to perform the work (received on April 18, 1995).

A routine part of the change order negotiation process includes the review of a cost proposal for out of scope and over priced work items. This review is followed by discussions with the Contractor, and agreements by the Contractor, to eliminate out of scope work items and to adjust the cost of work items that are initially over priced.

The contractor's proposal was subsequently revised and resubmitted to reflect the changes to the scope of work, and will be revised and resubmitted to reflect additional adjustments agreed to during the negotiation process (the final proposal will not include out of scope work items, nor will it include excessively priced work).

Review Comment: The Project will be constructed without Federal-aid. Temporary work to support the early opening of the Ted Williams Tunnel will result in additional costs.

Response:

MHD and FHWA are still reviewing the costs associated with the change order for the temporary toll facility. We anticipate that FHWA will participate in a substantial portion of the associated costs because of the benefit to the public for the early opening of the Ted Williams Tunnel.

The costs to expedite the opening of the Ted Williams Tunnel are offset by the benefits to the public. Advancing the scheduled opening of the Ted Williams Tunnel from Mid-March 1996 to December 15, 1995 will result in an estimated road user benefit of approximately $91,083/day or $2,732,500/month (see the attached Road User Benefit Analysis). The road user benefit of
approximately $8.2 million ($2,732,500/month x 3 months) will be a direct result of Early Opening, and we are confident that FHWA will participate in a substantial portion of these costs.

Again, we appreciate your comments regarding the contracts for these facilities and trust that this response addresses your concerns. If you have any questions, my point of contact is William Smith of my legal staff at 951-6105.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

Peter M. Zuk
Project Director

AD-2.4.2
096-222
SECTION FOUR

Review No. 5

Interim Police Facility (C24A1)
June 5, 1995

Peter M. Zuk, Director
Central Artery/Tunnel Project
One South Station; Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

My staff has conducted a statutorily mandated review of documents relating to the Central Artery/Tunnel (CA/T) Project's planned construction of an Interim Police Facility. This facility is to be constructed through a $750,000 contract modification to contract C24A1 - Operations Control Center Complex which has been underway since January 1994. The Project designed the facility to fit into an emergency response station, already under construction as part of the C24A1 contract. The Project has asserted that a state police facility in South Boston is absolutely necessary for the early opening of the third harbor tunnel.

In my February 10, 1995 letter to you, I stated that my Office could not complete its review of this facility until a final price for the work had been agreed upon between the contractor and the Project. The Project had indicated that it intended to execute a Part One modification directing the contractor to proceed with work before negotiating an agreement on the final scope or the contract price; final price and scope would be negotiated later. As I stated in my letter, I believe this after-the-fact method of price negotiation is highly vulnerable to waste and abuse and cannot be used under the State's building construction statutes. (See M.G.L. c.7, §42G.) I reiterated my position in a March 7, 1995 letter to you and requested that you forward to my Office the final contract modification with a fixed price.

Your March 29, 1995 letter of response stated that the Project would proceed with the two-part modification process and would forward the final contract modification to my Office by April 15, 1995. We received the final modification from the Project on May 22, 1995 and a copy of the

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1 Section 11 of Chapter 102 and Section 115 of Chapter 273 of the Acts of 1994 state in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.
modification file on May 23, 1995. My staff has made a concerted effort to review these documents in a timely manner. We have the following comments:

- As noted in my February 10, 1995 letter, M.G.L. c.7, §42H requires contractors to certify that the cost and pricing data they submit is accurate, complete, and current as of the date of submission. This section of the general laws further provides that the change order or contract modification shall specify that the price to the Commonwealth shall be adjusted to exclude any significant sums by which the Commonwealth finds that such price was increased because the contractor-furnished cost or pricing data was inaccurate, incomplete, or not current as of the date of submission. The documents provided to this Office contain no certification from the contractor, nor does the contract modification include the language required by M.G.L. c.7, §42H. The Project should ensure that this certified information is available and that it reflects all prices, costs and credits. The language of the contract modification should be adjusted accordingly.

- The final negotiated price greatly exceeds the Project's own cost estimates which raises concerns about the accuracy of the contractor pricing data for this modification. In August 1994, the Project estimated the cost of the interim police facility to be $162,000. In December 1994, a consultant paid by the Project estimated the cost of the facility to be $322,000. Only a few weeks later in a January 6, 1995 letter to the Division of Capital Planning and Operations (DCPO), the Project estimated the cost of the facility to be $449,000 including escalation costs and a contingency fund equal to 20 percent of the total cost. The current contract modification, negotiated with the contractor on or around May 4, 1995, sets the price at over $750,000, a four-fold increase from the original estimate even though the scope of the work does not appear to have changed. This significant cost increase remains largely unexplained.

- This costly interim police facility will only be in use for approximately three years. The most recent Project schedule provided to this Office states that the interim facility will open by December 1995 and construction of a permanent police facility will begin in the Spring of 1997. The interim facility, therefore, will only be in use until the permanent facility is completed, about three years after the interim facility opens.

- It appears that the cost of this project and the emergency response station will continue to grow. The current cost estimate for both the design and construction of the interim police facility is over $850,000 and this does not include the design, planning, and management provided by Bechtel/Parsons Brinckerhoff. In addition, Project documents provided to this Office show that the Project moved a number of items from the construction contractor's cost proposal to another pending contract modification. It is not clear whether these items, currently valued at $200,000, relate directly to the interim police facility.
• The major reduction in the size of the South Boston emergency response station may impact public safety. In 1992, Project staff told staff from this Office that the full-sized emergency response station, as then planned without a police facility, was essential for the Project.

• According to your correspondence with this Office, the interim police facility has been on "the critical path" for the Project. The Project, however, did not treat this facility as a critical path item. Following a lengthy and seemingly confused process, the Project decided to construct this facility by contract change order rather than through an open competitive bid process, and has taken more than one year to arrive at a definitive scope and price. Originally, the Project planned to bid this interim facility as a separate contract. The Project could have bid this "critical path" work a year ago without a schedule delay.

• When the permanent police facility is constructed, the Project intends to convert the interim police facility space back to its intended use as part of the emergency response station. The Project now has ample time to prepare for the competitive procurement of this work.

As you are aware, my responsibility is to call your attention to matters that, if unresolved, could result in cost overruns, statutory violations, and other problems related to the potential for fraud, waste or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours. The Project's cooperation in providing complete documentation in a timely manner to this Office is vital to the completion of accurate and timely reviews. This Office will not be able to complete its statutorily mandated reviews if information is not provided as soon as it becomes available.

Sincerely,

Robert A. Cerasoli
Inspector General

RAC:NC
cc: Secretary James J. Kerasiotes,
    Executive Office of Transportation and Construction
    Commissioner Laurinda T. Bedingfield
    Massachusetts Highway Department
    William S. Flynn, Deputy Project Director
    Central Artery/Tunnel Project
    Senator Thomas F. Birmingham, Chairman,
    Senate Ways and Means Committee
    Representative Thomas M. Finneran, Chairman,
    House Ways and Means Committee
    Commissioner Lark J. Palermo,
    Division of Capital Planning and Operations
MassHighway’s Response
Interim Police Facility - Contract C24A1 - Change Notice No. 10R2

MassHighway responded to the review by letter of January 31, 1996. This Office has consistently disputed MassHighway’s opinion that the CA/T Project is exempt from both the jurisdictional and procedural requirements of M.G.L. c.7. For the work in question, which MassHighway authorized through a contract change notice, this Office objected to MassHighway’s practice of permitting the contractor to proceed with work before a final cost for the work was negotiated. This Office cautioned: “This after-the-fact method of price negotiation is highly vulnerable to waste and abuse and cannot be used under the State’s building construction statutes.” MassHighway disagreed. This Office stands by its position.

The review raised a number of other issues and requested clarification for some items. MassHighway addressed these points in its response. This Office has no reason to question MassHighway’s responses to these issues.
January 31, 1996

Mr. Robert A. Cerasoli
Office of Inspector General
One Ashburton Place
Boston, MA 02108

Re: Chapter 102 Review/Interim State Police Facility

Dear Mr. Cerasoli,

This letter responds to your office’s review of the Interim State Police Facility (ISPF) portion of the Emergency Response Station (ERS) pursuant to Chapter 102 of the Acts of 1994. As always, we appreciate your comments and have taken them into account in the construction of the ISPF for the opening of the Ted Williams Tunnel.

As we have stated in previous correspondence on the ISPF, the project is on sound legal ground with respect to the construction of the ISPF proceeding on a Part 1 Modification basis because the 1994 Transportation Bond Bill provided that CA/T building contracts are exempt from the DCPO provisions of c. 7. In any event, the project is confident that the its procedures for administering contracts for CA/T building construction are consistent with the intent of the provisions of c. 7.

The following responses address the specific concerns raised by your office:

Review Comment: Require that the contractor certify that the cost and pricing data submitted is accurate, complete, and current as of date of submission.

Response:

As discussed in previous correspondence with your office, the project’s position is that the Chapter 7 provisions on which you rely do not apply to CA/T building contracts. Nonetheless, we note that the General Requirements and Covenants of the C24A1 Contract, Division I, Subsection 4.12 (Pricing Data - Price Adjustment), is substantively identical to the provisions of M.G.L. c. 7, Sec. 42H, referenced in your letter.

Because the Contract Modification with respect to the ISPF did not alter the full force and effect of the General Requirements and Covenants of the Contract, it was not necessary to make specific reference to Subsection 4.12 in the Contract Modification package.
itself. A contract modification to any contract is to be read together with the terms and conditions of the original contract.

In any event, we have received the Certificates of Current Cost and Pricing Data from the Contractor and its subcontractors for this work.

**Review Comment:** There were increases associated with the cost estimates developed for the C24A1 ISPF work.

**Response:**

As the design of the ISPF progressed in scope from conceptual sketch plans to working design drawings (Rev O) the cost estimate for construction increased. The following represents the process of design development for the ISPF work:

The Project estimated the cost of converting a portion of the ERS into the ISPF with sketch plans generated by B/PB. This estimate of $162,000 was based on an early and limited scope.

The SDC completed the working drawings and provided a cost estimate which included a revised emergency power generator and security systems not previously included in the sketch plans. The estimated cost based on the SDC working drawings was $322,000.

The Project’s Order of Magnitude Estimate for the ISPF of $449,000 was prepared on January 6, 1995. This estimate was based upon preliminary drawings and specifications dated November 23, 1994. These drawings and specifications were incomplete and not sufficient for construction and therefore the estimate only included an allowance for the cost of the sitework changes. It also included verbal price quotations for the cost of the prefabricated detention cells.

Subsequently, the drawings and specifications were revised and determined to be sufficient for construction and were issued to the Contractor with a request for a formal proposal. Concurrently, the Project prepared a detailed estimate. The Contractor’s proposal included a requested extension to the Contract Milestones. The late Contract Milestone completion would result in a delay to the First Phase Opening Tunnel schedule. The settlement with the Contractor therefore required a completion of the work so that it would not delay the Contract Milestones and still support the Tunnel Opening schedule.
The Project negotiated a fixed price, date certain settlement with the Contractor in the amount of $750,094.76. This settlement included costs for a scope of work greater than previously estimated. This scope increase included the costs for sitework revisions greater than originally estimated. In addition, the actual costs for the Prefabricated Detention Cells, based on a completed specification, were higher than the January 6, 1995, verbal quotation.

**Review Comment:** The useful life of the interim police facility is estimated to be three years.

**Response:**

The useful life of the ISPF is dependent on the construction schedule for the Permanent State Police Facility. The completion date for the permanent facility will be determined when a final decision is made whether DCPO or the MTA will design and construct the facility.

**Review Comment:** Engineering and design costs associated with the ISPF and ER8 will continue to grow; the Contractor's Proposal contained work unrelated to the ISPF.

**Response:**

The total ISPF cost is comprised of two components: the construction cost and the engineering/design cost. The SDC design costs for the ISPF were $90,124. The design and planning provided by B/PB was $80,400. The total engineering and design cost was $170,524. As discussed above, the total construction cost is $750,094.76.

The cost proposal submitted by the Contractor included costs for the scope of work for all the changes in the C24A1 Design PCN-022 documents. This design change included changes unrelated to the ISPF. During negotiations, the costs for the scope of work unrelated to the ISPF were separated out and the negotiated settlement of $750,094.76 was made on that basis. The balance of the changes will be added to the C24A1 Contract by a separate Contract Modification.

**Review Comment:** The size of the South Boston ER8 and its impact on public safety.

**Response:**
Only two lanes of commercial traffic (East and West) will utilize the Ted Williams Tunnel during Phase 1. Consequently, Project facilities will not be operating at their maximum capacities. Increased reliance on a nearby Phase 1 emergency response and emergency facilities will enable the ERS to temporarily accommodate the ISPF and still ensure the public safety. Once the Tunnel is fully operational and the Permanent State Police Facility is constructed, the ERS will provide the full emergency capabilities as originally intended.

Review Comment: Critical path status of the ISPF.

Response:

The Project determined that it was more efficient and cost effective to add this work as a change order to the C24A1 Contract, rather than complete the work as a separate contract. Because the ISPF is not a separate building, but merely a retrofitting of the ERS to accommodate the State Police, the Project eliminated inefficiencies and coordination problems by having the same SDC and construction contractor perform this work.

In addition, given the typical nine month SDC procurement process, four month construction document production, 12 week filed sub-bids bid cycle, and five month construction period, a separate contract would produce a total schedule of twenty one months. This would have led to significant schedule delays that were avoided by having the work added to the C24A1 Contract by change order.

Review Comment: Plans to convert the ISPF to part of the ERS.

Response:

DCPO agreed to convert the ERS back to the original design produced by the C24A1 SDC as part of the final build of the Permanent State Police Facility to be constructed on the site. The ISPF parking lot will be used for the Permanent State Police Facility. Any costs expended for the Interim police Facility that will also be used for the permanent facility are being evaluated such that the MHD may be compensated by DCPO or the MTA.
We appreciate your input on these facilities and trust that this letter responds to your concerns. If you have any questions, my point of contact is William Smith of my legal staff at 951-6105.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

[Signature]

P. M. Zuk
Project Director

AD-2.4.1
095-2875
SECTION FIVE

Review No. 4
Vent Building No. 4 and Parcel 7 Development (C15A3)
April 25, 1995

Peter M. Zuk, Director
Central Artery/Tunnel Project
One South Station; Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

I have conducted a review of documents relating to the Central Artery/Tunnel (CA/T) Project’s planned construction for the C15A3 contract also known as Parcel Seven. The Project intends to construct a vent building, parking garage, and commercial/office space as well as reconstruct portions of the Massachusetts Bay Transportation Authority’s (MBTA) Haymarket subway station. I have completed this review as required by Chapters 102 and 273 of the Acts of 1994.

Based on our review of bid documents, including plans, specifications, and estimates, final design and construction contracts, and Division of Capital Planning and Operations (DCPO) certification documents, we have identified the following issues:

1) Value Engineering: The Project did not conduct a value engineering study for this contract. Although previously conducted value engineering reports mention vent buildings generally, the cost and complexity of the Project’s vent buildings merit separate value engineering studies. A value engineering study should have been conducted during final design because the potential for cost savings in the design of these multi-faceted and complex buildings might have been significant. I recommend that all future vent building final designs undergo a value engineering study.

1 Section 11 of Chapter 102 and Section 115 of Chapter 273 of the Acts of 1994 state in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.
2) **Construction Contract:** According to your staff, the Project failed to complete and file with the Secretary of Economic Affairs and the Building Code Commission, as required by M.G.L. c.149, §44M, life cycle cost estimates for the energy systems designed for this facility. I recommend that the required estimates be completed as soon as possible. I further recommend that all future CA/T building design contracts contain a provision requiring the designer to complete such cost estimates.

3) **Design Contracts:** Upon a limited review of the design contracts pertinent to this construction contract, D016A - Arrowstreet Inc. and D015A - Sverdrup Inc., my staff found that the design contracts failed to contain the following statutorily required provisions. I recommend that the Project ensure that these provisions are included in all design contracts.

   a. M.G.L. c.7, §38H(b) states that in cases where the awarding authority negotiates a fee with the contractor, a truth-in-negotiations certificate must be filed and added to the contract. The design contracts do not contain this certification.

   b. M.G.L. c.7, §38H(e) provides for the inclusion of various certifications in the contract pertaining to gratuities, internal accounting controls, and audited financial statements. The design contracts do not contain these certifications.

   c. M.G.L. c.7, §38H(j) requires design contracts to provide that "the designer or his consultants shall not be compensated for any services involved in preparing changes that are required for additional work that should have been anticipated by the designer in preparation of the bid documents, as reasonably determined by the executive head of the public agency responsible for administering the design contract." The design contracts contain no such language.

4) **Mitigation Issues:** A substantial part of the cost of this contract as well as total CA/T Project costs, is devoted to mitigation measures. It is important for the Project to track these mitigation costs. I recommend that the Project identify all mitigation features in all CA/T contracts and the estimated cost of those features.
This is one of many reviews that I will conduct under the mandate of the Acts of 1994. I have a responsibility to comment on Project actions and call your attention to matters that, if unresolved, could result in cost overruns, statutory violations, and other problems related to the potential for fraud, waste or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours.

Sincerely,

Robert A. Cerasoli
Inspector General

RAC:NC

cc: James J. Kerasiotes, Secretary of Transportation
Laurinda T. Bedingfield, Commissioner. Highway Department
William Flynn, Deputy Project Director
Senator Thomas Birmingham, Chairman,
    Senate Ways and Means Committee
Representative Thomas M. Finneran, Chairman
    House Ways and Means Committee
William Kilmartin, Comptroller
Lark J. Palermo, Commissioner, Division of Capital Planning and Operations
MassHighway's Response

Vent Building No. 4 and Parcel 7 Development - Contract C15A3

MassHighway responded to this review by letter of June 15, 1995. This Office disagrees with MassHighway's position relative to a value engineering study for C15A3. This Office believes that a value engineering review could and should have been performed.

This Office concurs with MassHighway's explanation of its possible violation of M.G.L. c.149 relative to life cycle cost estimates. MassHighway could not comply because the Secretary of Economic Affairs (and the successor position) did not promulgate regulations for the implementation of Section 44M of Chapter 149. Nonetheless, MassHighway should have prepared, for its own use, life-cycle cost estimates of some kind for C15A3 energy systems. These estimates are important to an understanding of total future operations and maintenance costs for the facility.

Regarding mitigation cost tracking, this Office has since learned that MassHighway does track these costs. This Office has not, however, reviewed the adequacy and quality of this tracking system.

Regarding the finding that MassHighway violated M.G.L. c.7 for the C15A3 design contracts, this Office stands firm. This Office concurs with MassHighway's contention that the Project has been exempted from the jurisdictional responsibilities of the oversight and regulatory bodies identified in M.G.L. c.7; however, MassHighway and the CA/T Project are subject to the procedural elements of M.G.L. c.7. The statute obligates MassHighway to, among other things, obtain a truth-in-negotiations certificate from design contractors when a fee is negotiated, follow designer selection procedures, and obtain certified cost and pricing information for contract change orders.
Dear Inspector General Cerasoli:

In response to your letter dated April 25, 1995 regarding your office’s review of the C15A3 Contract for the construction of a ventilation building and a parking garage on the Parcel 7 portion of the Central Artery/Tunnel Project, I offer the following comments to the issues identified by your office:

1) Value Engineering:

Your office commented that a value engineering study should have been conducted for this contract. The CA/T Project does not conduct value engineering for each facility encompassed by the scope of the Project. The design for the C15A3 contract was well under way when FHWA and MHD approved VE Studies for Work Program 12. It was inappropriate, therefore, to conduct a value engineering study for this specific facility. We recognize the value of cost containment efforts and note that it is the Project’s intention to conduct peer reviews for large contracts that include ventilation buildings.

2) Construction Contract:

As was noted by your office, M.G.L. c.149, § 44M provides that awarding authorities file "life cycle cost estimates" for energy systems within public building construction contracts with the Secretary of Economic Affairs. M.G.L. c.149, § 44M, however, further requires that "the Secretary of Economic Affairs shall promulgate rules and regulations to implement the provisions of this section."

In 1993 when the Project was in the planning stage for the C15A3 contract, the Project was informed by the Division of Energy Resources within the Executive Office of Economic Affairs that it had not promulgated the regulations pursuant to c. 149. Consequently, the Division of Energy Resources was not requiring awarding authorities to file life cycle cost estimates for energy resource systems, and therefore, the Project proceeded with the advertisement of the C15A3 contract without the filing.

It is my understanding that the Division of Energy Resources to date has not promulgated regulations pursuant to this section of M.G.L. c. 149. The Project would be prepared to comply with any applicable regulations once promulgated. For obvious reasons,
however, the Project cannot complete such cost estimates on CA/T buildings contracts until such regulations are promulgated.

3) Design Contracts:

Your office informs the Project that pursuant to its review of the design contracts that support the C15A3 contract, it has determined that the Project is in violation of certain provisions of M.G.L. c. 7 relative to procedures of the Designer Selection Board.

However, as you are aware, in his January 12, 1995 Opinion, the Attorney General of the Commonwealth determined that the design of the various elements of the Parcel 7 facility fall within the statutory exemption created by M.G.L. c. 7, § 39A (g1/2), and therefore, are not subject to the jurisdiction of the Designer Selection Board that was created by the provisions of the designer selection laws contained in c. 7, §§ 38A1/2 through 380. The Project’s exemption from the jurisdiction of the Designer Selection Board and its procedures has since been codified in section 114 of chapter 102 and section 115 of chapter 273 of the Acts and Resolves of 1994 (the most recent Transportation Bond Issues).

4) Mitigation:

Your office recommends that the Project identify and track all mitigation costs. Please be advised that the Project maintains a comprehensive database to track and report on mitigation commitments generated primarily from the Record of Decision, MEPA certificates, and other applicable source documents.

A list of commitments applicable to each contract is provided to each selected section design consultant (SDC), who in turn works with the Project design staff to address all applicable commitments and to incorporate them into the standard contract format as is required by the FHWA when the SDC prepares the final Plans, Specifications, and Estimate (PS&E). Mitigation features are included in the PS&E, and therefore, are part of the cost estimate for each contract.

Thank you for your timely review of this contract and for your continued efforts on Central Artery/Tunnel Project matters.

Sincerely,

Peter M. Zuk
Project Director

AD-2.4.2
095-2054
SECTION SIX

Review No. 3

East Boston Emergency Response Station and Electrical Substation (C07A5)
November 15, 1994

Peter M. Zuk, Project Director
Central Artery/Tunnel Project
One South Station: Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

I have conducted a review of documents relating to construction of the Central Artery/Tunnel (CA/T) East Boston Electrical Substation/Emergency Response Station as required by Section 11 of Chapter 102 of the Acts of 1994 (Transportation Bond Bill. report in part). 1

Based on our review of bid documents, including plans, specifications, and estimates, the final contract and the design study certified by DCPO we have identified the following issues:

I. Schedule

- The foundation for the CO7A5 facility is being constructed by the CO7A1 contractor. According to Project staff, the foundation is scheduled to be finished in January 1995. If the CO7A5 contractor is authorized to proceed before the foundation is completed, access to the site will differ from what was contracted for with MassHighway. To prevent potential costly contractor delay claims, this

1 Section 11 of Chapter 102 of the Acts of 1994 states in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.
Office recommends that MassHighway not issue the notice to proceed until the foundation is complete or MassHighway can meet the terms of its contract with the CO7A5 contractor.

According to the study certified by DCPO:

The Emergency Response Station and the Electrical Substation must both be functional at the time of the opening of the Third Harbor Tunnel. The Substation will provide critical electrical power to CA/T facilities and systems in the area and the provision of the Response Station will ensure that the incidents in the tunnel and the I-90 roadway can be addressed promptly.

The certified study indicates that construction will take 18 months. The opening date of the Third Harbor Tunnel is October 1995. If the construction for CO7A5 began this month it would not be completed until May 1996, seven months after the scheduled opening. How will MassHighway address this situation?

II. Cost

In the January 1993 study DCPO certified, B/PB's estimated cost to construct this facility was $2,256,439. In the general bid documents, dated June 1994, B/PB's construction cost estimate was $4,800,000. MassHighway staff recently informed this Office that the in-house bid estimate was $6.4 million and the low bid for this work was $6.7 million. What accounts for the fact that the cost to construct this facility has tripled in less than two years?

Please bear in mind that M.G.L. c. 29, §§ 26A and B requires study recertification if the construction work cannot be accomplished without substantial deviation from the certified study. It is our opinion that a contract cost of $6.7 million represents a substantial deviation from the study's cost estimate of $2,256,439.

The cylindrical tower design is difficult to construct and costly. A square or rectangular elevator house rather than this cylindrical tower would be a less costly structure and should be considered.

The "winged" toll booth canopy will be connected to the cylindrical tower with sheet metal. The design appears to have been selected on the basis of aesthetic considerations,
since it serves no basic structural function. What, if any, alternatives were considered that would meet the design objectives at a lower cost?

III. Review

B/PB appears to have undermined the study review process. B/PB submitted the study directly to DCPO without first obtaining MassHighway's review and approval. In addition, B/PB provided inaccurate statements and undated design drawings to DCPO.

- B/PB transmitted its study directly to DCPO on February 12, 1993, without the review and approval of MassHighway. How can MassHighway be held accountable for contents of this design study if it did not review and approve the study prior to DCPO's review?

- B/PB's Project Executive's letter to Director Zuk, dated February 22, 1993, states:

  For your information, the transmittal of the final study to DCPO by B/PB was done in this special case to expedite DCPO's review and certification due to the schedule-sensitive nature of these facilities.

Apparently, B/PB decided that eliminating MassHighway from the review process would hasten the needed certification. When B/PB transmitted the study to MassHighway ten days later, on February 22, 1993, the review took less than one day. What accounts for the discrepancy between B/PB's concern that MassHighway's review would cause delays and the actual review time taken by MassHighway?

- In its February 12, 1993, transmittal memo to DCPO, B/PB stated:

  Due to the schedule sensitivity of the enclosed materials (Final Designer Notice to Proceed is scheduled for March 1, 1993), your expeditious review and certification would be appreciated.

This statement is incorrect. There was no March notice to proceed date. This design was extra work added to an existing contract. B/PB did not receive the proposal for this work until April 29, 1993 and the notice to proceed was not given until October 20, 1993. What accounts for this inaccurate statement?

- The preliminary design drawings are undated. What was the date of completion for these drawings? Why were they not dated?
This Office is aware that delaying the notice to proceed for this contract may have schedule and cost impacts. It is the opinion of this Office, however, that it is in the best interests of the Commonwealth for you to examine and resolve the issues we have outlined before proceeding with construction. I would appreciate your response to the issues raised in this letter by November 28, 1994.

As you are aware, this is the third of many reviews I will conduct as a result of the bill signed by the Governor on August 22, 1994. My responsibility is to call your attention to matters that, if unresolved, could result in cost overruns, statutory violations, and other problems related to the potential for fraud, waste or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours.

Sincerely,

Robert A. Cerasoli
Inspector General

RAC/NH

cc: James J. Kerasiotes, Secretary of Transportation
Laurinda T. Bedingfield, Commissioner
William Flynn, Deputy Project Director
Senator Thomas F. Birmingham, Chairman
Senate Ways and Means Committee
Representative Thomas M. Finneran, Chairman
House Ways and Means Committee
Lark J. Palermo, Commissioner
Division of Capital Planning & Operations
MassHighway’s Response
East Boston Emergency Response Station and Electrical Substation - Contract C07A5

MassHighway responded to this review by letter of November 21, 1994. Although this Office found elements of MassHighway’s response informative, the original review stands. In this instance, this Office’s review pointed out areas of concern and sought to question some of MassHighway’s decisions.
November 21, 1994

Mr. Robert A. Cerasoli
Inspector General
One Ashburton Place
Boston, MA  02108

Subject:  Central Artery (I-93)/Tunnel (I-90) Project
D007A/C07A5 East Boston Emergency Response Station/
Electrical Substation

Reference: Inspector General Correspondence dated November 15, 1994

Dear Mr. Cerasoli:

We have reviewed your letter of November 15, 1994 regarding your recommendation to delay issuing the Notice-to-Proceed for Construction Contract C07A5 - The East Boston Electrical Substation/Emergency Response Station. We respectfully disagree with this position.

Our specific responses to your letter are as follows:

I. Schedule

The foundation portion of the work to be constructed by the C07A1 contractor is virtually complete. A walk-through to establish the punchlist is currently scheduled for December 5, 1994. The C07A1 contractor will complete work on January 1, 1995, in advance of the scheduled commencement of the next contract. The C07A5 contract incorporates Access Restraint No. 3 which anticipated this interface and prohibits access to the site until February 1, 1995. Per the current schedule, the C07A1 work required for turnover to the C07A5 contractor will be complete prior to the contracted turnover date.

We acknowledge that an Emergency Response Station and an Electrical Substation are required for Early Opening. Recognizing that the construction schedule for C07A5 would not support that schedule, a Temporary Electrical Substation and a Temporary Emergency Response Station have been provided for under separate contracts. These facilities will provide the necessary services to the Third Harbor Tunnel between the Tunnel opening date and the completion date of C07A5. The November 1994 Notice-to-Proceed date will allow the C07A5 Contractor adequate time to fully address the complex mobilization issues well in advance of the February 1, 1995 start of physical construction.
II. Cost

The initial B/PB cost estimate was based on a 25% completed preliminary design effort consisting of twelve structural and architectural drawings and an estimated price per square foot for mechanical and electrical equipment. This estimate for the building was based on the conceptual design report available at the time. We prepared our initial estimate on this basis in order to expedite securing DCPO certification, which is required prior to commencing final design. Since this building was required for Phase One Opening, an attempt was made to meet the Project Schedule.

The original estimate did not include site access restraints or coordination with follow-on and adjacent contractors, as well as with Massport. After the preliminary design was complete, the Section Design Consultant (SDC) developed the required sixty day estimate as $4.4 million. During final design, the SDC estimate rose to $5.2 million, due to additional site work and the availability of a more complete and developed set of documents on which to base the estimate.

The filed sub-bids received September 6, 1994 were $600,000 more than the final estimate, probably due to concerns about site access restraints. This would increase the cost to at least $5.8 million. On the receipt of the sub-bids, and after a similar amount ($600,000) was included for the General Contractor’s increase, the overall estimate was revised to $6.4 million.

We understand the term "substantial deviation" applies to the total building square footage. This is consistent with our ongoing dialogue with DCPO concerning the various CA/T facilities as well as with the provisions of Section VII of the Procedures for DCPO Control and Supervision of the Design of Building Projects Associated with the Central Artery/Tunnel Project. This is restated in DCPO correspondence concerning the Study for C07A5. Since building square footage and the functional program remain substantially unchanged, we suggest there is no requirement to pursue recertification in this case.

When the cylindrical tower and "winged" toll booth canopy were reviewed by MHD and FHWA, constructibility and cost considerations were raised and discussed; concurrence was reached that a cylindrical shape was not a significant added expense and that the canopy was an appropriate feature to highlight the "gateway" to Boston through the Third Harbor Tunnel. In addition, the design process has involved both MassPort and Artery Business Committee input. It should be further noted that this facility was reviewed and accepted by DCPO.

III. Review

We take exception to your assertion that the DCPO Study review process has been undermined. MHD was fully informed of the state of design and played an integral role throughout the review process. The points you highlight in your letter result from our effort to coordinate and maintain the schedule for a very complex project, not from an attempt to undermine the DCPO review.
Your statement that the preliminary design drawings submitted to DCPO were undated is inaccurate. The submitted drawings are each dated January 29, 1993, "ISSUED FOR MHD REVIEW" in the revision block. MHD played an integral role and was involved throughout the review process. The following outlines the DCPO certification process for this contract:

- During preparation of the DCPO study, Final Design of the Electrical Substation was planned to start on February 28, 1993.

- Studies were prepared as soon as possible and sent to DCPO on February 12, 1993, requesting certification for a March 1, 1993 Final Designer NTP. The studies were largely compilations of documents previously submitted to MHD. For example, MHD's review of drawings commenced February 9, 1993 and was completed prior to February 23, 1993 with this action not documented until March 9, 1993. MHD was fully informed of the state of design throughout by virtue of the ongoing review and decision process between B/PB and MHD.

- DCPO completed their review and transmitted forms for MHD's approval of the report in a letter dated February 16, 1993. When this form is signed by MHD, their concurrence with the Study is formalized.

- The Study was formally transmitted to MHD for review on February 22, 1993 with a request that it be expedited. It was formally approved by MHD the next day. At this point, MHD accepted responsibility for contents of the design study. The MHD was able to give its review immediately because it had already reviewed the documents.

- DCPO transmitted approved certification forms to MHD on February 24, 1993. These forms were in turn transmitted to B/PB by MHD on March 8, 1993.

The above-described events illustrate an ongoing design, review and adjustment process in which formal documentation trails after the events. The process can be expedited without compromising its integrity. This accounts for the apparent discrepancy between B/PB's concern that MHD review could cause delays and the actual review time taken by MHD.

Your assertion that there was no March Notice to Proceed date is correct; MHD authorization to proceed with Final Design was received by B/PB August 20, 1993. The change in the NTP date from March to August was due to the negotiations between the SDC and B/PB necessary to establish the cost of final design, as well as the process to obtain FHWA concurrence.

Based on the above, it is our position that these issues were either anticipated or previously reviewed and resolved to the satisfaction of MHD, FHWA and/or DCPO. Any design changes or delays at this time will
not be in the best interest of the Commonwealth and would far exceed any anticipated savings which we do not believe are realistically achievable. Accordingly, Construction NTP will be issued as scheduled on November 23, 1994.

Should you have any questions regarding the above, my point of contact is Susan Cobb at 951-6134.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

[Signature]

Peter M. Zuk
Project Director
SECTION SEVEN

Review No. 2

D Street Facility Renovation (C24F1)
November 10, 1994

Peter M. Zuk, Project Director
Central Artery/Tunnel Project
One South Station; Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

I have conducted a review of documents relating to the Central Artery/Tunnel (CA/T) Technical Services Relocation - 400 "D" Street as required by Section 11 of Chapter 102 of the Acts of 1994 (the transportation bond bill).\(^1\) We have made a concerted effort to accommodate the Project's desire to proceed with construction on or about November 15, 1994.

Based on our review of bid documents provided by your staff, including plans, specifications, and estimates. and the final contract, we have identified the following issues:

- Designer selection - MassHighway staff informed this Office that MassHighway followed no designer selection procedure, including its own, in obtaining final design services for the relocation project. MassHighway directed B/PB, which was under contract to perform the preliminary design, to also perform the final design.

Projects funded under Chapter 33(e) of the Acts of 1991 are not exempt from M.G.L. c. 7, §38H(d), which provides:

\(^1\) Section 11 of Chapter 102 of the Acts of 1994 states in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.
A designer or programmer appointed to do a feasibility study, master plan, or program for a project shall be ineligible for appointment to perform the design services for that project, unless the study, master plan, or program is limited to the repair, renovation, or the identification and correction of deficiencies in an already existing building or its equipment and the fee for the combined study and design of repairs is less than one hundred thousand dollars.

This Office recommends that the MassHighway examine B/PB’s total design costs to ensure that B/PB’s design charges did not exceed the $100,000 statutory threshold. Please provide the results of that examination to this Office.

- Study and certification under M.G.L. c. 29, §7K -- M.G.L. c. 29, §7K requires Division of Capital Planning and Operations (DCPO) certification of a study before any services for the design or construction of a building project, for which a state agency is the using agency, may be contracted for. According to MassHighway staff, no study was certified by DCPO for the technical services relocation to 400 "D" Street. MassHighway staff contend that study certification was not required on this project because design and construction will be performed with funds made available under Chapter 33(e) of the Acts of 1991, which provides that "such projects shall be carried out by the department."

Buildings funded under Chapter 33(e) of the Acts of 1991, however, require study certification by DCPO, as the appropriation for these projects does not "specifically state that no such study or program need or shall be done." (M.G.L. c. 29, §7K.) Therefore, MassHighway should have obtained DCPO certification on a study for the technical services relocation project.

In fact, MassHighway staff’s rationale for not complying with c. 29, §7K contradicts your statements in 1991. Specifically, in a letter dated September 24, 1991 to the DCPO Commissioner, you stated that building projects exempted from DCPO and Designer Selection Board (DSB) jurisdiction under the 1991 Transportation Bond Bill remain subject to the entirely separate statutory requirement of a DCPO-certified feasibility study.

MassHighway should not proceed without obtaining the statutorily-mandated certification from DCPO.
Funding - According to your staff, the funding source for this CA/T Project technical facility, Chapter 33(e) of the Acts of 1991, is a general appropriation for MassHighway-owned garages and maintenance shops. Why is the State paying 100 percent of the cost for this CA/T facility?

Notably, the Commonwealth has already paid once (the renovation of the Harding Building) to house this function. We question the prudence of paying twice to renovate space for the same purpose. We have requested documents, by letter dated November 7, 1994, related to this matter. In addition, this Office would like to know if MassHighway anticipates relocating technical services again, at any time, for the duration of the CA/T Project.

Schedule - According to the contract, the notice to proceed is to be issued on November 15, 1994 and the contract is to be completed in May 1995. The Harding Building where the technical service staff now resides is scheduled for demolition in April 1995 -- one month before the "D" street facility reconstruction will be completed. Where will the technical services staff be housed and how will they do their work between the time their current quarters are demolished and the new facility can be occupied?

Construction - How do you account for the difference between B/PB's bid estimate of $4,603 for asbestos abatement and Camp, Dresser, & McKee's (CDM) earlier Right-of-way and Remediation Service (ROWARS) estimate of $900,000? We are aware that the technical services staff will occupy a smaller space than that examined by CDM, and that CDM's estimates are based on the building's demolition, but it is unclear how B/PB arrived at its estimate. The low-bidder included a price of $5,000 for this bid item. If B/PB has underestimated the asbestos requirements you invite no-bid change orders to deal with B/PB's error.

Approvals - There is no evidence in the documentation provided to this Office that MassHighway or the Federal Highway Administration has approved the drawings for this contract. Typically, both MassHighway and the Federal Highway Administration would review and approve all final contract drawings prior to contract award. This is true even when Federal Highway has not agreed to fund the facility but, where a facility impacts a federally-funded project. Why are these designs not approved?
This Office is aware that delaying the notice to proceed (NTP) for this contract may have schedule and cost impacts. It is the opinion of this Office, however, that it is in the best interests of the Commonwealth for you to examine and resolve the issues we have outlined before proceeding with construction.

As you are aware, this is among the first of many reviews I will conduct as a result of the bill signed by the Governor on August 22, 1994. My responsibility is to call your attention to matters that, if unresolved, could result in cost overruns, statutory violations, and other problems related to the potential for fraud, waste or abuse in the expenditure of public funds. The decision as to whether and how these matters are resolved is yours.

Sincerely,

Robert A. Cerasoli
Inspector General

cc: James J. Kerasiotes, Secretary of Transportation
Laurinda T. Bedingfield, Commissioner
William Flynn, Deputy Project Director
Senator Thomas F. Birmingham, Chairman
Senate Ways and Means Committee
Representative Thomas M. Finneran, Chairman
House Ways and Means Committee
MassHighway’s Response
D Street Facility Renovation - Contract C24F1

MassHighway responded to this review by letter of December 30, 1994. This Office disagrees with MassHighway’s statement that Chapter 33, Section 3 of the Acts of 1991 exempted them from the study and certification requirements of M.G.L. c.29. MassHighway did not obtain from the Division of Capital Planning and Operations a design study certification for this work, an important part of the oversight process. This certification ensures that the state has defined a project’s scope, long- and short-term needs, costs, and schedule before final design completion.

The review raised a number of other issues and requested clarification for some items. MassHighway addressed these points in its response. We have no reason to question MassHighway’s responses to these issues.
December 30, 1994

Mr. Robert A. Cerasoli
Inspector General
One Ashburton Place
Boston, MA 02108

Subject: Central Artery (I-93)/Tunnel (I-90) Project
C24F1/Technical Services Relocation - 400 "D" Street

Reference: Inspector General Correspondence dated Nov. 10, 1994

Dear Mr. Cerasoli:

We have reviewed your letter of November 10, 1994 regarding your recommendation to delay issuing the Notice to Proceed (NTP) for Construction Contract C24F1/Technical Services Relocation to 400 "D" Street. We respectfully disagree with this position.

Our specific responses to your letter are as follows:

1. Designer Selection

The Department's position was clearly articulated in a letter dated April 15, 1994 from MHD's Chief Counsel to DCPO's General Counsel, which states in part:

"...the work will be done with funds made available under Chapter 33 of the Acts of 1991...section 3(e) provides that "notwithstanding any general or special law to the contrary," this type of work shall be carried out by this Department." (emphasis added)

Accordingly, it is the Department's opinion that the execution of this work by the Department was in all aspects proper and in accordance with applicable law, and that language specifically exempting the Department from a given statute is not required.

We chose to forego competitive process in designer selection because we felt that it was not cost-effective or practical to involve multiple design firms in this small but complex assignment. In order to procure final design services, a full preliminary design would have been required to serve as an RFQ/P document. This step, if performed, would have taken approximately four months and additional expenditure to complete.
Advertisement, pre-qualification, fee negotiations and contract award of final design would have required an additional seven to ten months, plus administration costs.

In fact, Final Design required only four months to complete. This was accomplished by utilizing in-house resources already familiar with Project requirements and procedures.

Thus, had a designer selection procedure been employed, the work accomplished by CA/T staff in four months would have taken fifteen to eighteen months to complete, and costs would have multiplied due to the extra efforts required and alternate temporary accommodation for the TS&EO staff.

2. Study and Certification

We interpret the broad exception contained in Chapter 33 of the Acts of 1991, § 3(e) to exempt this type of work from M.G.L. c.29, § 7K. The Department’s April 15, 1994 letter informing DCPO of our interpretation and our plans to go forward without a DCPO certified study was intended to confirm our interpretation. We have received no response to the contrary, and we have interpreted this as concurrence with our position.

3. Funding

FHWA understood, during Work Program 7, that Technical Services would be relocated at a later date; they concurred with the decision to relocate the facility to "D" Street in Work Program 12 and have agreed to participate in funding of construction costs. The Commonwealth will therefore not be paying 100% of the cost. As a result of full FHWA participation, the Commonwealth will be paying only 10% of the cost. The CA/T Project presently has no plans to relocate Technical Services from "D" Street in the future.

4. Schedule

According to the contract, the notice to proceed was issued on November 18, 1994. The contract milestone of April 3, 1995 for substantial completion includes installation at 400 "D" Street and
start-up of equipment relocated from the Harding Building. Substantial completion is the point at which the Department of Public Safety issues a Temporary Occupancy Permit allowing users total access and use of the new facility. Demolition of the Harding Building will occur after April 3, 1995. No other accommodation, temporary or otherwise is planned or required for the staff or their equipment.

5. Construction

The initial $900,000 estimated abatement cost was for full removal and disposal of hazardous materials, as required in order to demolish the existing "D" Street building. The estimate of $4,603 was determined by evaluating the design documents prepared to accommodate relocation of Technical Services in terms of the comprehensive building survey, which identified hazardous materials present building-wide. Resultant impacts were identified in the Asbestos Abatement specification, and formed the basis of the estimate.

Technical Services will occupy only a portion of the building and the majority of the area to be occupied is asbestos-free. Necessary renovations were designed to minimize the disturbance of existing hazardous materials; in lieu of complete abatement, most of the hazardous materials present will remain in place. There is no requirement to abate asbestos which is in a non-friable form, as is the case at 400 D Street; it is considered safe if left in place and undisturbed.

6. Approvals

The Final Design PS&E submittal for C24F1 Technical Services Relocation occurred July 14, 1994. Review submittal packages were forwarded to various agencies, including FHWA and DCPO on July 27, 1994. MHD’s review comments were transmitted to the joint venture on August 12, 1994, and responses were issued August 30, 1994. FHWA’s letter of approval and authorization of construction funding was issued August 4, 1994.

Based on the above, it is our position that these items were either anticipated or previously reviewed and resolved to the satisfaction
Mr. Robert A. Cerasoli  
Inspector General  
C24F1 Technical Services Relocation  
Page four

best interests of the Commonwealth. Accordingly, Construction NTP was issued as scheduled on November 18, 1994.

Should you have any questions regarding the above, my point of contact is Susan Cobb who can be reached at 951-6134.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

Peter M. Zuk  
Project Director

PMZ/RLSK/bcl

cc: C. M. Davis - MHD  
S. D. Cobb - MHD  
AD-2.4.2  
094-3943
SECTION EIGHT

Review No. 1
Phase One Central Maintenance Facility (C24A2)
September 21, 1994

Peter M. Zuk, Project Director
Central Artery/Tunnel Project
One South Station: Fourth Floor
Boston, Massachusetts 02110

Dear Mr. Zuk:

I have conducted a review of documents relating to construction of the Central Artery/Tunnel (CA/T) Project Phase One Central Maintenance Facility as required by Section 11 of Chapter 102 of the Acts of 1994 (the transportation bond bill).\(^1\) This Office has made a concerted effort to accommodate the Project’s desire to proceed with construction on or about September 21.

The tight schedule permitted only a quick review of the documents you provided to this Office.\(^2\) Nonetheless, we included the following in our review:

- **Study and certification** - At our request, your staff provided evidence that the Project had obtained DCPo certification as required by M.G.L. c. 29, §7K. I recommend that MassHighway update its memorandum of understanding with DCPo to reflect the provisions of the new transportation bond bill, and to better reflect the intent of M.G.L. c. 29, §§26A and B, which require recertification under certain conditions.

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\(^1\) Section 11 of Chapter 102 of the Acts of 1994 states in pertinent part:

[MassHighway] shall have jurisdiction over the selection of designers performing design services in connection with the ventilation of buildings, utility facilities and toll booths to be constructed as part of the Central Artery/Third Harbor Tunnel Project, and shall construct, control, supervise, or contract for said structures; provided, however, that no construction or contractual agreement for construction shall begin prior to the review of the inspector general of the commonwealth.

\(^2\) Documents we needed to conduct this review arrived within the last week: bid documents, including PS&E - September 16; contract - September 19; DCPo certification - September 20.
Bid documents, including plans, specifications and estimates - The documents identify Chapter 21E site contamination issues; my staff has requested evidence that site contamination issues have been resolved to the satisfaction of the Department of Environmental Protection and other regulatory agencies. The Project has yet to provide the requested information. I question whether construction can begin until these concerns are resolved.

Final contract (entitled "Central Maintenance Facility, Phase I C24A2" [general bid opening: July 19, 1994]) - The review disclosed no apparent deviations from public bidding statutes (M.G.L. c. 149); however, the contract pegs the project value at $7.8 million, an increase of more than 50 percent over the estimated construction cost cited in the study DCPO certified last year. If you have not yet done so, I recommend that you examine the reasons for this disparity. Please provide us with an explanation for the increase and the Project's justification for proceeding in the face of the increase.

As you are aware, this is the first of many reviews I will conduct pursuant to Chapter 102 of the Acts of 1994. We are developing a strategy for meeting this Office's statutory obligations and remaining sensitive to the Project's schedule constraints. By providing documents in a timely manner, you will help ensure that I am able to meet both objectives.

Sincerely,

[Signature]

Robert A. Cerasoli
Inspector General

cc: James J. Kerasiotes, Secretary of Transportation
    Laurinda T. Bedingfield, Commissioner
    William Flynn, Deputy Project Director
MassHighway’s Response
Phase One Central Maintenance Facility - Contract C24A2

MassHighway responded by letter of November 7, 1994. This Office’s review questioned an increase in contract cost estimates and the presence of contaminants at the contract site. This Office asked for additional information regarding these issues. MassHighway responded that the Massachusetts Department of Environmental Protection was aware of the conditions of the contaminated site and offered a brief explanation for the contract cost estimate increase. This Office has no reason to question MassHighway’s response. This Office also suggested that MassHighway update its memorandum of understanding with the Division of Capital Planning and Operations. MassHighway disagreed. This Office stands by its recommendation.
November 7, 1994

Mr. Robert A. Cerasoli  
Office of the Inspector General  
One Ashburton Place  
Boston, MA 02108

SUBJECT: Central Artery/Third Harbor Tunnel Project  
Phase One Central Maintenance Facility D024A/C24A2

Dear Mr. Cerasoli:

We have reviewed your letter of September 21, 1994 concerning your review of documents relating to construction of the subject project as required by the transportation bond bill, with the following response.

Study and certification: The memorandum of understanding (MOU) between MHD and DCPO concerning DCPO control and supervision of the design of CA/T Project buildings was prepared during 1990. This MOU - including its recertification provisions - has served and continues to effectively serve its intended purpose. To the best of our knowledge, DCPO is generally satisfied with our performance under, and the content of the MOU. Please note that the Project's Preliminary Design phase is nearing completion, with the great majority of applicable facilities already certified or being reviewed by DCPO. The current MOU is nearing the end of its useful life. We are also reluctant to pursue your recommendation that the Design MOU be updated to reflect the construction provisions of the new transportation bond bill. A separate MOU for construction phase activities may be desirable.

Bid documents, including plans, specifications and estimates: Discussion of site contamination issues is ongoing between B/PB and MHD at Ten Park Plaza. A meeting between B/PB, MHD and Department of Environmental Protection staff was held on Wednesday 5 October 1994 to discuss the site contamination issues. At this meeting it was agreed by all parties that construction can begin on this contract with the understanding that remediation of contaminated material at D Street under the existing DEP enforcement action will be done in accordance with the Massachusetts Contingency Plan (MCP). The existing Memorandum of Understanding (M.O.U.) is still applicable to the CA/T construction contract at D Street.
Mr. Robert A. Cerasoli

Phase One Central Maintenance Facility D024A/C24A2
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Final Contract (C24A2 - general bid opening: July 19, 1994): We have been tracking the estimated construction cost of this facility since preparing an initial estimate based on the square footage program in 1993 for DCPO certification. Increases resulted from changes in design based on discussions between CA/T and Massachusetts Turnpike Authority (MTA) operations and maintenance staff in preparation for CA/T Phase One Opening, changes due to design development, additional expense associated with site contamination, and cost escalation based on a late 1995 substantial completion. We are unaware of any requirement to suspend work because the design process revealed additional Project needs. These needs must be accommodated at this facility for Phase One opening of I-90 third Harbor Tunnel. These scope increases were deemed advisable and/or unavoidable by the Project; an explanation of the increases is attached (see CMF Phase One Sequential Cost Summary).

Thank you for your commitment to accommodate the Project's schedule constraints. The Project will make every effort to provide the documentation you require in meeting statutory obligations in a timely manner. We look forward to working with your staff in reaching our common objectives.

If you have any questions in this matter, please contact Susan D. Cobb of my staff, at telephone 951-6134.

Sincerely,

MASSACHUSETTS HIGHWAY DEPARTMENT

[Signature]

Peter M. Zuk
Project Director

PMZ/SDC
Enclosures: 1. Inspector General's Letter of September 21, 1994
2. C24A2 Central Maintenance Facility, Phase 1 Sequential Cost Summary

AD-2.4.2; EN-9.3.19
094-3233
cc: C.M. Davis