

**State of Rhode Island
CONCRETE REVIEW REPORT**

**To: Jerome F. Williams, Director, Department of Administration¹
~ and ~
Michael P. Lewis, Director Department of Transportation**

From: Everett Sammartino Jr., Esq., Chair, RIDOT Review Team

ECA

Date : May 30, 2008

Re: Concrete Review Findings

A. Background:

The RIDOT Iway project is the most significant design and construction project in the history of the RI Department of Transportation (hereafter RIDOT). The bridge structures and roadways that comprise this project can be observed in the Providence, RI skyline.

This project is a compilation of fifteen (15) different construction contracts. Of these contracts, four (4) are at issue here (contracts 6, 7, 8 and 9²). As discussed below, the team was assigned to determine whether the concrete that was placed in the Iway project under these contracts complied with the RIDOT concrete testing mandates.

The Iway project was designed to improve the operational capacity of the I-195 / I-95 interchange, replace deficient structures and improve safety. In September 2004, officials from both Federal Highway Administration (hereafter FHWA) and RIDOT executed a written agreement called the Project Management Plan (PMP) (Record No.1) that outlined the controlling management structure and protocol for the planning and completion of the Iway project.

On July 13, 2007, FHWA initiated a review of the concrete sampling and testing inspection program for Iway contracts 6, 7, 8 & 9. The review concluded on July 27, 2007.

On February 27, 2008, FHWA (R.I. office) issued a *Notice of Ineligibility* (hereafter **Notice**) to RIDOT concerning concrete placements that were made in the Iway project contracts 6, 7, 8 & 9. The **Notice** identified instances of lack of construction inspection and a lack of random sampling and testing. Notwithstanding, RIDOT supplemental testing of these areas showed that concrete placements at issue in the **Notice** exceeded the minimum compressive strength specifications with nine minor exceptions. In all cases the

¹ On or about March 17, 2008, Director Williams became Director of Department of Administration; and Michael Lewis was appointed Director of the RI Department of Transportation;

² I Way Contracts 6, 7, 8&9 were the subject of a Federal Highway Administration concrete placement review.

strength needed for design / safety of the structure was met. (Reference correspondence dated February 14, 2008, Record No. 2)

On Monday March 10, 2008, Jerome Williams the then Director of Transportation appointed a team to conduct an internal RIDOT specific review of the concrete testing of the Interstate Route 195 relocation project (Iway project) involving contracts 6,7,8 & 9 within a thirty day time frame. The majority of the review was completed, within thirty days, but the issuance of a written work product was delayed to afford the newly appointed RIDOT Director sufficient time to review the FHWA **Notice** and subsequently meet with the team for a briefing on the internal review process and the preliminary findings. Shortly thereafter, the team was engaged to assist RIDOT in another time sensitive administrative project. Accordingly, the team report is issued at this time.

B. Team Members:

- Everett C. Sammartino Jr., Esq. / Transportation/ OIG, Chair;
- John B. Affleck, Esq./ Administration/ Legal Services;
- Marcia McGair Ippolito, Esq./ Administration/ Legal Services;
- Norman P. Marzano Jr., P.E./ Transportation/ Construction Management
- Marc A. Leonetti, / Transportation/ Financial Management

C. Team Charge:

To determine whether the RIDOT concrete testing and protocol used in the Iway project (contracts 6, 7, 8&9) complied with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction as outlined in the Department's 1997 & 2004 editions (Blue Book) by performing a process review.

D. Answer to Charge:

RIDOT did not perform the concrete testing in accordance with the Standard Specifications on contracts 6, 7, 8&9. In particular RIDOT did not follow the testing procedures set forth in section 601.03.7 of the Standard Specifications which requires random subplot sampling.

As discussed in Finding 14 infra, the material inspectors used the testing method set out in the project materials test book which does not include random subplot sampling.

The report details responsible parties in the findings and conclusion sections of this report.

E. Scope of Review:

- The Team interviewed a total of fourteen (14) witnesses, all of whom are currently employed by RIDOT. Of the fourteen witnesses, one was represented by counsel; ten (10) arrived at the interviews with union representation; and three (3) appeared by themselves. Prior to conducting the witness reviews and after much preliminary discussion and agreement by all parties, the witnesses (who were represented by the union) agreed to the interviews on the express condition that the proceedings would be informational fact gathering sessions (as stated in the

correspondence from RIDOT's Human Resources Office). All parties were advised at the commencement of each witness interview, that although the sessions were not pre-disciplinary hearings, all findings would be later reviewed by appropriate RIDOT officials to determine what further action, if any, would be taken against any of the witnesses questioned. To this end, it is specifically noted that at the conclusion of each unionized witness interview, each witness statement was reduced to a written summary format for union representatives and witnesses to review and indicate approval by initialing each statement.

- Summaries of all witness interviews were duly prepared by the team members for use in making the findings herein. (Record No. 3)
- The team reviewed the concrete delivery slips (as kept in the ordinary course of business at DOT) from each of the four (4) contracts listed in FHWA's Notice of Ineligibility regarding Iway contracts 6, 7, 8 & 9 dated February 27, 2008. (This review previously submitted under separate cover.)
- RIDOT job specifications for the following positions: (Record No. 4)
 - Engineering Technician II, III, and IV (includes materials testers and resident engineer John Filiponi)
 - Highway Construction and Maintenance Operations Manager (John Pezullo, resident engineer)
 - Administrator, Highway and Bridge Construction Operations (Richard Fondi and Anthony DeAngelis)
 - Civil Engineer (none interviewed)
 - Senior Civil Engineer (Paul DelCioppio, resident engineer)
 - Principal Civil Engineer (Robert Ferrara, resident engineer; David Amalfatano & Hythem Awad-Materials Section)
 - Chief Civil Engineer (Mark Felag Chief of Materials and James Caroselli Area Resident Engineer)
 - Managing Civil Engineer (During the Iway project, Mark Felag was promoted to this position)
 - Deputy Chief Engineer (Frank Corrao, who in February 2005, replaced Richard Fondi as Administrator of Construction)
 - Chief Engineer (Mr. Parker, retired in 2007, not interviewed)
- Two RIDOT organizational charts in effect during the Iway project. (Record No. 5)

F. Applicable References:

- RI Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 edition (RIDOT Specs) Part 600, Portland Cement Concrete
- RIDOT Specs. Section 808, Cast – In – Place Structure Concrete Masonry
- Rhode Island Department of Transportation/ Operations Division: Procedures for Uniform Record Keeping; Subject 18: Materials Certification and Testing, February 2000 Revision

- Rhode Island Department of Transportation/ Operations Division: Procedures for Uniform Record Keeping; Subject 29: Structural Concrete, February 2000 Revision
- Pertinent RI DOT Iway personnel Job Descriptions
- I-195 Relocation Project Management Plan as executed by RI DOT officials and officials from Federal Highway Administration in September 2004
- Rhode Island department of Transportation Advanced Notification “Major Changes in project Scope, project Design, Specifications, or Estimated Quantities”, addendum No 14, dated: May 14, 2003 (15 page document)

G. Applicable Testing Standards:

1. RIDOT Standard Specifications for Highway and Bridge Construction 808.03.5 Placing Concrete. paragraph a General :

“The Contractor will be required to notify the Engineer twenty-four hours in advance of placing concrete in order to provide ample time for the inspection of forms, steel reinforcement, materials and equipment.”

Note: Based upon witness interviews, the contractor provided required advance notice in the majority of the concrete placements that were delivered to the Iway contracts at issue. Unannounced late day deliveries of concrete made to the project site and allowed by Resident Engineers³, presented difficulties. Because the Chief of Materials did not (or could not) assign dedicated materials inspectors to the Iway project, a resident engineer could not always locate a materials inspector at the right time after that resident engineer had accepted the concrete delivery. In those instances, no testing was performed. Nevertheless, in the absence of an available materials inspector to the job site, all RIDOT Resident Engineers were responsible to perform the required sampling and testing. (RIDOT specifications - PURK Manual subject 29). On October 12, 2004, this directive was reinforced by the then Administrator of Construction Management Richard Fondi to all field personnel (Record No. 6). The record shows that the Resident Engineers⁴ to all four contracts allowed deliveries in the absence of a material inspector without performing the required testing and sampling.

2. RIDOT Procedures for Uniform Record Keeping Manual – Subject : 29 Structural Concrete I. General Information:

“To insure proper construction of forms, placement of reinforcement steel, concrete, and curing of concrete, the inspector will be at the site of concrete placement at all times. He/she will be responsible for collecting delivery slips, tests as per the Master Schedule, and making the proper entries on the slips as the trucks arrive and depart. This will also involve the proper testing of these operations as per the Master Schedule.”

³ Later day concrete deliveries (without advance notice) occurred in all four contracts.

⁴ The resident engineers to these contracts were as follows: Contract 6: John Pezzulo; Contract 7: Robert Ferrara; Contract 8: Paul DelCioppio; Contract 9: John Filiponi.

It is further stated in section II. Detailed Instructions – Item C. 4 “Make proper tests as required (slump, air content, cylinders) and record on delivery slips. See RI Standard Specifications and Master Schedule for frequency and tolerances”

Note: The record shows that the material inspectors did not follow the procedures set forth in the Standard Specifications. See finding 16 infra at page 15.

3. **RIDOT Procedures for Uniform Record Keeping Manual – Subject: 18 Materials Certification and Testing III. Detailed Instruction for Material Tests:**

The Construction Operations Section will prepare and provide the Project Materials Test Book for each project.

1. This schedule will clearly indicate the item quantity and minimum required number of samples, tests or certifications required for each item of work indicated in the Proposal for a particular project. The Construction Operations Section will show computations for the required minimum number of samples and tests.
2. The Resident Engineer must insure that the required tests for each item are performed.
3. The Resident Engineer, or his/her representative, must maintain the “Item Test Requirement Log” (Exhibit 18B).

Note: The PMP mandated that: “a comprehensive inspection and testing program will be developed and tailored to each individual contract to ensure the quality of the work and materials incorporated into the Project”. The Construction Operations staff were responsible for preparing Project Materials Test Books; however, a representative from that group stated that staff was not provided with a copy of the PMP by the section chief⁵. Accordingly, Construction Operations staff prepared standard Project Materials Test Books based on the testing standards that were set forth in RIDOT’s Master Schedule for Materials Testing. No evidence existed to show that the RIDOT construction or materials chiefs⁶ reviewed and approved the Project Materials Test book to determine compliance with the PMP mandate.

4. **RIDOT Master Schedule for the preparation of a Project Schedule for Sampling, Testing and Certification of Materials**

***Code 601.0101 thru 601.0600** - Portland Cement Concrete Class X, XX, A, B, (AE)

***Code 601.1000, 601.2000** - Type IP Cement/Portland Cement with Fly Ash

***Code 603.1000** - Controlled Low Strength Material

I. Concrete Mix

a. Acceptance Tests

- 1) Six (6) 6" x 12" cylinders per 200 CY or each day’s production for compressive strength tests.

⁵ Anthony DeAngelis, Administrator, Highway & Bridge Construction Operations (signed PMP as Administrator, Construction Operations).

⁶ Richard Fondi, as noted above and Mark Felag, Chief Civil Engineer (Chief of Materials) who reported directly to Richard Fondi.

- a) Sampled at the Project Site by the Resident Engineer or the Materials Inspector.
- b) Tested in CENTRAL LAB.
- 2) One (1) sample (size according to AASHTO T-119) per 200 CY or each day's production for slump test.
 - a) Sampled and tested at the Project Site by the Resident Engineer or the Materials Inspector.
- 3) One (1) sample (size according to AASTHO T-152) per 200 CY or each day's production for an air content test.
 - a) Sampled and tested at the Project Site by the Resident Engineer or the Materials Inspector.

5. RIDOT Standard Specifications for Highway and Bridge Construction – Section 600 Portland Cement Concrete 601.03.7 Testing of Concrete.

(d)Twenty Eight (28)-Day Concrete Compressive Strength:

For a given class of concrete, the portions of a concrete structure constructed during one continuous concrete placement operation shall be called the Lot.

The Lot shall be divided into Sublots when the total quantity of concrete placed for each continuous concrete operation exceeding 150 cubic yards, as such, the Sublot shall represent a quantity of 150 cubic yards or less.

Six cylinders shall be cast for each 150 cubic yards or less of concrete delivered for each class of concrete. The casting of any set of 6 cylinders from the same sample of concrete shall not be permitted. The following procedure shall be used to insure Random Sampling: each quantity of 150 cubic yards or less shall be divided into thirds and 2 cylinders shall be cast from each third.

6. I-195 Relocation Project Management Plan Quality Assurance/Quality Control:

“A comprehensive inspection and testing program will be developed and tailored to each individual contract to ensure the quality of the work and materials incorporated into the Project. Inspection, testing methods and frequencies will generally follow established RIDOT procedures and practices with the appropriate adjustments and enhancements to meet the needs of complex construction operations and the use of specialized materials.” [page 6]

Note: The PMP mandated that: “a comprehensive inspection and testing program will be developed and tailored to each individual contract to ensure the quality of the work and materials incorporated into the Project”. The Constructions Operations staff is responsible for preparing Project Materials Test Books; however, a representative from that group stated that staff was not provided with a copy of the PMP by the section chief⁷. Accordingly, Constructions Operations staff prepared standard Project Materials Test Books based on the testing standards that were set forth in RIDOT's Master Schedule for Materials Testing. No evidence existed to show that the RIDOT

⁷ Anthony DeAngelis, Administrator, Highway & Bridge Construction Operations (signed PMP as Administrator, Construction Operations Section).

construction or materials chiefs⁸ reviewed and approved the Project Materials Test book to determine compliance with the PMP mandate.

7. I-195 Relocation Project Management Plan Quality Assurance/Quality Control:

“A record system will be established for each contract to document and track test results, certification of materials and their disposition. The system will be structured to enable project personnel to effectively verify that sampling and testing frequencies are being met and that submission of material certificates adheres to project schedules to ensure the orderly progression of the construction work. Monitoring of quality controls will focus on early detection of non-conforming conditions and the initiation of positive corrective action in a timely fashion.” [page 7]

Note: The Construction Operations Section did prepare a record system to document and track test results, certification of materials and their disposition. It is the resident engineer’s responsibility to maintain these records. The team does not comment as to the accuracy of these records as they were not reviewed as part of this investigation. The team was advised by a representative from RIDOT that these records are subject to periodic review by the auditor general.

8. I-195 Relocation Project Management Plan Management Team Structure:

“The RIDOT Area Engineer will have primary responsibility for the day-to-day management of all construction operations on the Project and will be the primary point of contact for the FHWA Project Manager for these activities. The Area Engineer will also have supervisory responsibility for the Resident Engineer and support staff assigned to individual contracts.”[page 2]

H. Controlling Document: The Project Management Plan (PMP)

- On or about September 8, 2004, officials from RIDOT and FHWA drafted and executed an **Interstate Route 195 Relocation Project Management Plan (PMP)**, which detailed the respective roles and responsibilities of each entity in the management of the I-195 project.
 - RIDOT signatories and the titles that they used on this document were as follows: James R. Capaldi, P.E., Director (retired); Edmund T. Parker, P.E., Chief Engineer (retired); Richard G. Fondi, Administrator, Construction Management Group (January 2003 – February 2005, reassigned from I Way project); Anthony DeAngelis, Administrator, Construction Management Section (retired); James R. Caroselli, Chief Civil Engineer. The materials section of the RIDOT was not a signatory to the PMP. (**RIDOT signatories to the PMP are hereafter referred to as RIDOT officials**).
 - The FHWA signatories were: Lucy Garliauskas, FHWA Division Administrator (relocated to new position 2007); Gabriel C. Brazao, FHWA Engineering and Infrastructure Team leader (retired); John McAvoy, P.E. FHWA Project Manager (relocated to new position 2007)
 - The PMP is the controlling document for the I Way project.

⁸ Richard Fondi, as noted above and Mark Felag, Chief Civil Engineer (Chief of Materials) who reported directly to Richard Fondi.

- The PMP coordinated and clarified project management and responsibilities for the I-195 project. The significant objectives of the PMP were:
 - “...to insure proper administration and oversight of each individual contract as well as the Project itself”.
 - The contracts will be managed using the team approach.
 - **Management Team Structure**
 - Highest level of authority RIDOT Chief Engineer and FHWA Assistant Administrator, Routine Delegation to RIDOT Construction Administrator and FHWA Engineering Team Leader, RIDOT Area Engineer primarily responsible for day to day management of all construction operations.
 - **Quality Assurance / Quality Control**
 - “A comprehensive inspection and testing program will be developed and tailored to each individual contract to ensure the quality of the work and materials incorporated into the Project. Inspection, testing methods and frequencies will generally follow established RIDOT procedures and practices with appropriate adjustments and enhancements to meet the needs of complex construction operations and the use of specialized materials”.
 - “Each contract will have a Master Sampling and Testing Schedule defining frequency of sampling and sampling sizes”. [Note: RIDOT prepared this document (for each contract) which outlines the testing frequency of sampling and sample sizes...6 cylinders per 200 cubic yards or each days production...]
 - Monitoring of quality controls will focus on early detection on non-conforming conditions and the initiation of positive corrective action in a timely fashion”.

FINDINGS:

The review team findings are based upon the RIDOT employee interviews; applicable RIDOT Standards & Specifications; the pertinent provisions of the PMP and applicable job specifications.

1. **The pertinent descriptions of RIDOT job specifications that are used in the findings:**
 - **Engineering Technician II: Materials:** In its pertinent part is described as: material inspector to assist a professional civil engineer, or an engineering technician of a higher classification, in materials testing activities; to assist in the taping and testing of sample aggregates, mixes, asphalt, steel and other materials used in highway and bridge construction; to assist in the preparation of materials survey reports; and to assist in materials research. (Mike Caroppoli, materials inspector was interviewed: reports to David Amalfatano who reports to Mark Felag, Materials Chief).

- **Engineering Technician III: Materials:** In its pertinent part states: to assist a civil engineer in exercising supervision over highway materials testing activities; to assist in locating and sampling test bits selected from materials survey; to take and test samples of aggregates mixes, asphalt, steel and other materials used in highway and bridge construction; to prescribe asphalt and concrete mixes, when required; to prepare materials survey reports; to assist in the review of work by inspectors stationed at materials plants and construction projects; and to assist in materials research. (Mark Ferri and Richard Guerra, materials inspectors were interviewed. At I Way, both report to David Amalfatano who reports to Mark Felag, Chief of Materials).
- **Engineering Technician IV: Construction & Maintenance:** In its pertinent part states: To supervise construction and /or maintenance of bridges and related highway projects; to inspect all materials going into such projects; to be responsible for the inspection of the workmanship and practices of contractors and/or state crews engaged in construction or maintenance projects; to assist a superior in the review of plans, specifications and designs submitted by contractors, architects or engineers; to interpret provisions of contracts, plans, specifications and designs; to assure that construction work schedules are maintained; to supervise the continuous inspection of workmanship, materials and methods; to supervise staffs engaged in the operation and maintenance of state bridges and to plan, assign supervise and review work of the engineering technicians and other personnel assigned to construction and maintenance projects. (John Filiponi, resident engineer for contract 9 was interviewed; At I Way, he reported to James Caroselli, Area Resident Engineer).
- **Highway Construction and Maintenance Operations Manager:** In its pertinent part states: To be responsible for managing highway construction or maintenance operations programs and assigned staff: as assigned , plans, directs and participates in the development and implementation of operational planes, policies and processes for construction field management, or property and fleet management, or communications, storm operations and emergency responses, or correctional support, homeland security and public safety; and to do related work as required. (John Pezullo, resident engineer for contract 6 was interviewed; At I Way, he reported to James Caroselli, Area Resident Engineer).
- **Senior Civil Engineer: Construction:** In its pertinent part states: On a bridge or highway construction assignment, to supervise and participate in the inspection of all materials going into the project and all of the workmanship and practices of the contractor to see that all plans and specifications are fully observed. (Paul DelCioppio, was resident engineer for contract 8 was interviewed. At I Way, he reported to James Caroselli, Area Resident Engineer).
- **Principal Civil Engineer: Construction:** In its pertinent part states: To perform difficult technical or supervisory work in professional civil engineering in the area

of specialization, construction, ... and do related work as required. ... To supervise the contract construction of roads or bridges, related highway projects in reviewing plans, specifications and designs submitted by the contractor, architect or engineer and make recommendations thereon; in the field: to be responsible for interpreting provisions of contracts, plans, specifications and designs; to assure that construction work schedules are maintained and to supervise the continuous inspection of workmanship, materials and methods. (Robert Ferrara, resident engineer for contract 7 was interviewed. At I Way, he reported to James Caroselli, Area Resident Engineer).

- **Principal Civil Engineer: Materials:** In its pertinent part states: To perform difficult technical or supervisory work in professional civil engineering in the area of specialization, materials, ... and do related work as required. ... To plan, supervise and review the testing, inspection and approval or rejection of all materials used in highway construction and maintenance; to prepare materials specifications; and to originate and supervise materials research projects. (David Amalfatano & Hythem Awad-Materials Section were interviewed; both reported to Mark Felag, Chief of Materials).
- **Chief Civil Engineer: Construction:** In its pertinent part states: To be responsible for the administration of the statewide engineering program in the area specialization, construction, ... and to do related work as required ... The field inspection of all state road construction/maintenance activities or projects to assure compliance with plans and specifications by contractors; the negotiation with engineers, contractors, and representatives of the Federal Highway Administration for changes in construction plans and the checking and approval of contract changes and all payments to contractors for work done; the investigation of claims and complaints relative to the prosecution activities. (James Caroselli, Area Resident Engineer was interviewed. He reported to Anthony DeAngelis, Administrator Construction Management Section up to February 2005, then to Frank Corrao, Deputy Chief Engineer).
- **Chief Civil Engineer: Materials:** In its pertinent part states: To be responsible for the administration of the statewide engineering program in the area specialization, materials, ... and to do related work as required ... The sampling, testing, and inspection at the site, the laboratory or at the originating source of all materials used in state construction; the preparation of methods and procedures for specific tests of materials used in state construction, the obtaining of certificates of compliance, where necessary from materials manufactures and the issuing of materials certificates stating acceptance and/or rejection of the various materials used in a project; the maintenance of records of all samples taken and all tests made; the implementation of a control testing program to assure the proper functioning of the regular testing and sampling program, the coordination of the program with the overall departmental programs and activities. (Mark Felag, Chief of Materials was interviewed. He reported to Richard Fondi, Administrator

Construction Management up to February 2005, then to Frank Corrao, Deputy Chief Engineer).

- **Administrator, Highway and Bridge Construction Operations:** In its pertinent part states: To be responsible for the administration of statewide highway and bridge construction project programs and to oversee the field operations of such project programs including such activities as:
 - making field inspections of the several state road and bridge construction activities or projects in progress to assure compliance with plans and specifications by the contractors;
 - negotiating with engineers, contractors, and representatives of the Federal Highway Administration for proposed changes in construction plans, the checking and approval of contract changes and all payments to contractors for work done ;
 - investigating claims and complaints relative to the prosecution of questionable construction activities;
 - coordinating the sampling, testing and inspection of all materials used in state construction projects and programs either at the construction site or at the originating source;
 - obtaining certificates of compliance, where necessary, from materials manufacturers, and the issuing of the materials certificates stating acceptance and/or rejection of the various materials used in state construction projects and programs; and
 - maintaining records of all samples taken and tests made and implementing a test control program to assure the proper functioning of the sampling and testing program.
 - To coordinate the highway and bridge construction project programs with overall departmental programs and activities to evaluate their effectiveness.
 - To assist in personnel administration and labor relations activities.
 - To do related work as required.

(Richard Fondi was interviewed. He reported to Edmund Parker, Chief Engineer. Mr. Fondi signed the Iway PMP as Administrator Construction Management Group; for purposes of this document, his position will be noted as Administrator Construction Management Group, herein. Anthony DeAngelis retired, was not interviewed. He reported to Richard Fondi; Mr. DeAngelis signed the PMP as Administrator Construction Management Section; for purposes of this document, his position will be noted as Administrator Construction Management Section.)

Note: Although both Mr. Fondi and Mr. DeAngelis held the same title Mr. Fondi was in charge of the entire Construction Division.)
- **Deputy Chief Engineer, Construction Operations:** In its pertinent part states:
 - To assist in the administration and operation of a major divisional engineering program within the Department of Transportation.

- To serve as the acting Chief Engineer in case of the absence or inability of the Chief Engineer to discharge the powers and duties of the position.
- To perform highly difficult and responsible work of a professional civil engineering nature in directing divisional engineering activities.
- To review and discuss work of the division and assistants and subordinates.
- To review and approve or reject materials, equipment requisitions and work orders of the various sections.
- To inspect the work of the division's projects and activities in the field.
- To consult with the Chief Engineer on matters of policy, special projects and other matters affecting the state transportation program and, as required, to provide professional engineering advice on such matters.
- To evaluate present programs as to their effectiveness and efficiency in attaining their objectives;
- To prepare future plans and to budget allocations based on this evaluation.
- To coordinate program planning and development with state and local agencies and with private organizations.
- To make recommendations to the Chief Engineer on program planning and implementation, on budget requirements, and on staffing needs.
- As required, to assist the Chief Engineer and Director in labor relations and other personnel administration matters.
- To maintain an effective public relations program which will provide an understanding of divisional policy and of the functions and objectives of the various programs and activities.
- To review existing laws, proposed legislation, rules and regulations and to make recommendations.
- To do related work as required.

(Frank Corrao, who in February 2005, replaced Richard Fondi as Administrator Construction Management Group interviewed)

2. In 2004, the RIDOT signatories⁹ to the Iway project PMP did not distribute copies to constructions operations staff, Chief of Materials, Resident Engineers or field personnel (including materials testers) who were assigned to implement the field work on the project. Nor did the record show that project specific testing training or informational pre-briefing sessions about the Iway project were conducted with the field personnel who would be responsible to carry out the project.

Since the PMP was the pivotal document for this project, ordinary and appropriate measures could have been taken to make certain that each of the above parties had a copy of it. Under the job specs listed above, it was incumbent upon the Administrator, Construction Management Group (Mr. Fondi) to communicate the document (and the importance of it) to all personnel reporting up through and to

⁹ As noted above, Director James Capaldi; Chief Engineer, Edmund Parker; Administrator of Construction Management Group Richard Fondi; Administrator of Construction Management Section Anthony DeAngelis; Area Resident Engineer, James Caroselli.

Constructions Management Administration. Moreover, it was incumbent upon the Area Resident Engineer (Mr. Caroselli) to communicate this document and the importance of it to the Resident Engineers who were assigned to him.

3. The Administrator(s) of Construction and the Chief of Materials were operationally disconnected from the actual project controls, communications and significant day to day issues, specifically in the area of material testing and the testing protocols being used on site. Given the importance of this project and the job descriptions it would not be unreasonable to conclude these officials should have been on site inspecting periodically. Although the Construction Administrator stated that he had regularly met with his staff on the project in question, there is no evidence that concrete testing issues were specifically addressed.
4. During the team interviews, the RIDOT Chief of Materials (Mr. Felag) produced copies of inter-office memoranda, dated February 17, 2003, June 8 and July 6, 2004, (Record No. 7) requesting increased staffing in the Materials Section and/or utilizing construction personnel to perform testing. Although the Administrator of Construction approved those communications and forwarded them to the Chief Engineer, no evidence of follow up about this issue was brought to the team's attention.
5. Based upon the record before us, no evidence exists to support any finding that the RIDOT management officials who were ultimately responsible for the project, the Chief Engineer (Mr. Parker), the two Administrator(s) of Construction Operations (Mr. Fondi and Mr. DeAngelis) and the Area Resident Engineer (Mr. Caroselli), had exercised sufficient oversight and implemented appropriate controls to monitor the execution of the express directives of the PMP which included:
 - bi-weekly coordination meetings mandated on page 3 of the PMP, were implemented by the Area Resident Engineer as bi-monthly meetings;
 - Specific details on concrete testing were addressed as an ambiguous reference that the parties "will generally follow established" testing procedures and practices.
 - A quarterly "Executive Summary Report" to provide a "synopsis of the current status of the project including any major issues affecting the project's ...quality" was required with updates on "significant items identified as having deficient quality". There is no record of such reports.
 - The required independent quality assurance team that was charged with verifying sampling and testing procedures was neither staffed nor implemented.
6. The Area Resident Engineer (Mr. Caroselli) indicated that he had focused upon addressing issues of a general nature in the project, but that the details and specific operation of material testing was delegated to the Materials Section Chief (Mr. Felag). Operationally, the record shows little communication and

coordination between the Area Resident Engineer and the Chief of Materials during the planning and implementation of the Iway contracts in question. Both of these individuals equally shared the responsibility to promote effective communications.

7. Given the significance of this project, the Administrator of Construction Management (Mr. Fondi) and his 2005 successor (Mr. Corrao) as supervisor of both the Area Engineer and Chief of Materials would have had an opportunity and the responsibility to make certain that both of these individuals were completely coordinated in the planning and execution of this project, essentially, in the areas of concrete deliveries and concrete testing.
8. Conversely, RIDOT operational and organizational structure depicts the Materials Section personnel as functioning in a parallel capacity to the Construction Operations personnel (area engineer) with each section reporting directly to the Administrator of Construction Management Group (Mr. Fondi). However, this structure was not incorporated into the terms of the PMP.
9. Although the PMP placed a major emphasis on the quality control and testing of materials, the document categorized the Materials Section in the "Project Management Functional Diagram" as a support service. (The Materials Section was neither a signatory to the PMP nor was it included in the "cc" distribution list.) The project would have been better served had the Chief of Materials been included directly in this process by his supervisor the Administrator of Construction (Mr. Fondi). The chief engineer is also statutorily obliged, per RIGL 42-13-2 (a) (3), and mandated to supervise the execution of contracts and specifications for all RIDOT construction projects. (Record 8) Accordingly, the Chief Engineer was ultimately responsible to take steps to include Chief of Materials in this process from the beginning of the project.
10. Based upon RIDOT policy and specifications (PURK Manual subject 29), the Area Resident Engineer and the Resident Engineers were ultimately responsible to oversee compliance with the testing procedures.
11. The Chief of Materials (Mr. Felag) stated that he did not have enough staff to dedicate to the subject project sites. In support of this contention Mr. Felag produced two inter office memos referenced in finding three (3) supra. Notwithstanding the issue of dedicated staff, the Chief of Materials did not provide information that he took proactive steps to make sure that the project testing would be in compliance with the specifications. The team is not convinced that additional staff would have led to proper testing in light of the fact that the record shows no evidence of training on testing methods for this project and no evidence that the correct testing method (random subplot sampling) was used.
12. The interviewed materials inspectors consistently related that they were thinly staffed, were required to handle other testing assignments across the state; were

not dedicated to the Iway location when concrete placements and trucks were expected; did more with less; exercised damage control and made decisions of priority; i.e., testing a deck pour as opposed to a non-structural placement.

13. The record did not support that all RIDOT management officials (including the Administrators of Construction, Area Resident Engineer and Chief of Materials) had planned and instituted appropriate follow up processes and procedures to monitor the testing protocol at the project sites. Nor did they generate or staff a quality acceptance program that was required by the PMP which mandated a separate and distinct schedule of sampling and testing for independent verification of sampling and testing procedures.
14. Because a comprehensive inspection and testing program for this project (as noted above in finding 13) was not prepared, the materials inspectors did not have a testing directive for this project nor was one given to them. In the absence of a project testing directive the material inspectors should have been instructed by the Resident Engineers and Materials Supervisor to follow the testing set forth in section 601.03.7 of RIDOT's standard specifications (Blue Book) that required random sampling of the concrete. Instead, the material inspectors used a testing method that was set out in the project materials test book that did not include random subplot sampling. Based on the material inspectors witness statements this manner of testing, which pre-dates the Iway project, is a standard practice on RIDOT projects. Accordingly, the material inspectors considered the testing provision in the project materials test book to be both an appropriate and acceptable method. Lack of random subplot sampling was mentioned in the FHWA Notice.
15. The contractor was required to provide twenty four hours notice to RIDOT. See G.1 on page four (4).
16. Because the same contractor was involved in each of the Iway project contracts, the contractor could view the project in its entirety. This approach enabled the contractor to deliver truckloads of concrete to the different Iway contract sites in or around the same time frame. RIDOT appeared to manage this project quite differently. Per witness statements of the Resident Engineers, each of the RIDOT contracts in question seemed to operate in an isolated but parallel fashion to each other. Notwithstanding the fact that the geographic locations of the project were physically connected to each other, each numbered contract was separately identified and assigned to a different resident engineer and staff.
17. The RIDOT management approach (as noted in finding 17, supra) was evidenced by the fact that the project meetings held at the Iway headquarters by the Area Resident Engineer did not include all of the Resident Engineers in the room and at the same time to review the entire project and the coordination of significant items, including expected concrete deliveries. Rather, each resident engineer

separately met with Area Resident Engineer, FHWA, and contractors reps to discuss his individual contract issues.

18. The team notes that although the PMP required bi weekly meetings (to be scheduled by the area engineer) the meetings were held bi monthly. A representative from Construction Operations informed the team that RIDOT standard practice interprets bi weekly as one meeting every two weeks.
19. With regard to the RIDOT testing at the concrete plant, Mr. Awad (Principal Civil Engineer) - who supervises RIDOT inspectors at the Iway project concrete plant - informed the team that the testing procedures and quality control exercised by RIDOT at the contractor's concrete plants was compliant with the RIDOT Blue Book standards and specifications.
20. Each witness indicated that the State received a strong, safe and durable concrete product that was incorporated into the Iway project.

I. CONCLUSIONS:

The conclusions are based upon the concrete testing at the Iway project only. After listening to witness statements and reviewing the record materials, at the outset the project would have been better served under the following scenario:

1. The inclusion of all key RIDOT personnel in the project contract, ie, the PMP. The responsibility is vested within the statutory duties of the RIDOT Chief Engineer.
2. The PMP requirement to develop a project specific inspection and testing program allowed RIDOT and FHWA the opportunity for both parties to agree to a modified testing method and frequency prior to the start of the projects. This was not done. The responsibility is vested within the statutory duties of the RIDOT Chief Engineer; Chief of Construction Management; Area Resident Engineer and Chief of Materials.
3. The testing method was not changed for this project. All RIDOT projects are required to use the Blue Book testing method of random subplot sampling. This was not done. This responsibility to enforce this method of testing is predominately vested in the Resident Engineers and Materials Supervisors. This process should have been monitored by their supervisors Chief of Materials, Area Resident Engineer and the Administrator of Construction Management.
4. Whatever testing method was required, the project would have been better served had all RIDOT personnel who were assigned to this project been assembled together and briefed about the standard testing requirements for the project. This was not done. The responsibility vested in Area Resident Engineer, Chief of Materials and their supervisor, Administrator of Construction Management.

5. To develop appropriate internal measures to insure the necessary verbal and written communication between the Area Resident Engineer and the Chief of Materials to coordinate and execute all concrete testing. This responsibility was vested in the Area Resident Engineer, Chief of Materials and their supervisor, Administrator of Construction Management.
6. To institute appropriate internal controls and supervision regarding the concrete testing over the Resident Engineers and materials inspectors who were assigned to the project. This responsibility is vested in the Area Resident Engineer and the Chief of Materials.
7. To implement a system of continued written communication between the contractor and a designated contact person at RIDOT regarding all concrete deliveries to the project sites. This responsibility would have been vested in the Area Engineer, the Administrator of Construction Management and the Chief Engineer.
8. To provide on site periodic project reviews to address outstanding project issues. This responsibility is vested in the Administrator of Construction Management, Area Resident Engineer, and Chief of Materials.