

# DISPUTE REVIEW BOARD RECOMMENDATION

January 30, 2006

E-Mailed January 30, 2006

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RE: SR 44: FROM I-4 W RAMPS TO C4118 (PIONEER TRAIL)  
FIN No.: 240805-2-52-01  
County: Volusia  
Disputes Review Board

## **Issue – Impacts to Supplier**

Dear Sirs:

The Owner, Florida Department of Transportation (Department) and Contractor, The Middlesex Corporation, (TMC) requested a hearing to determine **entitlement** of TMC to **additional compensation and contract time for delays to TMC's supplier, Dura-Stress** on the project. Should entitlement be established, the Dispute Review Board (Board) was not to decide the quantum of such entitlement at this time, as the parties would attempt to negotiate the value of entitlement.

Pertinent issues, correspondence and other information relating to the Department's and the Contractor's positions were forwarded to this Board for review and discussion at the hearing that was held on January 18<sup>th</sup> 2006.

## **CONTRACTOR'S POSITION:**

### ***1.0 INTRODUCTION***

*This position paper is introduced to explain the events that occurred leading up to eleven (11) days of lost production to Dura-Stress. This paper will also examine additional lost days due to the same circumstances. The general contractor on this project is THE MIDDLESEX CORPORATION (TMC). The consultant for the Florida Department of Transportation (FDOT) is Jacobs Civil, Inc. (JCI). The Engineer of Record (EOR) is HNTB. Dura-Stress is a vendor to the general contractor TMC, VSL is the Post-Tensioning Subcontractor to the general contractor.*

*This claim is being presented to the disputes review board as agreed upon between FDOT and TMC. The unsettled claim arose when Dura-Stress began to pursue compensation due to them for delays that, as Dura-Stress feels, were directly a result of the EOR. The remainder of this paper will document the facts that support Dura-Stress and TMC's claim to this compensation.*

*The total amount for the claim is Forty-Nine Thousand, Three-hundred Eight-One Dollars and no cents (\$49,381.00) plus additional TMC overhead. This cost represents the lost production and overhead of Dura-Stress during the eleven (11) day delay.*

*This paper is accompanied by all relevant attachments, including but not limited to emails, formal letters, transmittal, and project notes. Each attachment is labeled and will be referenced throughout this paper.*

### ***2.0 DESCRIPTION***

*TMC believes that equitable compensation is required in this claim as the lack of action by both the consultant JCI, and EOR, HNTB, contributed. In the following chain of events, it will be shown that a breakdown in the review process of the submittal led to these delays that could have been avoided very easily; from the original submittal that took almost two (2) months to review, to the lack of attentiveness to submit the Post Tensioning*

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*System to FDOT Structures.*

*Per FDOT Specifications and Standards, in the event that FDOT Structures invokes their right to review a specific project, it is the responsibility of the EOR to forward these submittals to FDOT Structures for their review and/or comments.*

*Two (2) months after these documents were returned to TMC approved, an FDOT State Inspector, Steven Voll, stopped production on the Modified Bulb T beams as FDOT Structures has not reviewed the documents. Two (2) days passed before HNTB and JCI could decide who would send these items to FDOT Structures. Once reviewed at FDOT by Larry Sessions, there were numerous additional items and changes that were required of the plan. These additional items were forwarded to TMC and VSL, which were promptly addressed and resubmitted. One (1) days after re-submittal, production was allowed to continue.*

*HNTB and JCI had the submittal in their possession for a total of sixty-three (63) days prior to TMC receiving the approved submittal back. Twenty-One (21) days from receiving the approved submittal, production was halted. A total of eighty-four (84) days passed for events that, during the delay, only required eleven (11) to resolve with the cooperation of TMC and FDOT Structures. The following is a chain of events outlining the cause and results of this delay.*

## 3.0 COST ANALYSIS

- October 20, 2004: Post-Tensioning Grout and Duct Connection is submitted to JCI for forwarding to HNTB for approval. (Exhibit A)*
- November 1, 2004: Post-Tensioning Grout and Duct Connection submittal is returned to TMC, JCI indicates that TMC is to submit to HNTB. (Exhibit B)*
- November 3, 2004: Post-Tensioning System is submitted to HNTB for approval. (Exhibit C)*
- January 5, 2005: Post-Tensioning System is returned to TMC. Post-Tensioning Grout and Duct Connection is approved. Post-Tensioning Grouting Procedure is required for Amend & Resubmit (Exhibit D) **Note: The grouting procedure was not required to be approved for production of Modified Bulb-T Beams.***
- January 21, 2005: Post-Tensioning Grouting Procedure is re-submitted to HNTB and JCI for approval.*
- January 24<sup>1</sup>, 2005: Modified Bulb-T beds are prepped and production of beams begins.*
- January 26, 2005: FDOT State Inspector, Steven Voll, halts production as FDOT has not been provided the submittal packages for review and / or comment (Exhibit E)*
- January 27, 2005: FDOT indicates that production CANNOT continue until they review the Post-Tensioning System. (Exhibit E)*
- January 28, 2005: Dura-Stress formally acknowledges that work is stopped. A total of five (5) beams already have reinforcing steel and Post-Tensioning Systems installed. (Exhibit F)*
- Per telecom, JCI indicated that they had instructed HNTB to transmit this package immediately. In the afternoon, HNTB indicated that they would not transmit because they did not have an original "clean" copy. TMC requested JCI to prepare the package and TMC would accept the responsibility to overnight the package to FDOT (Exhibit G).*
- February 1, 2005: Larry Sessions of FDOT Structures sends a list of additional requirements and changes that must be incorporated before FDOT Structures will approve the Post-Tensioning System. (Exhibit H)*
- February 3, 2005: VSL transmits the revised Post-Tensioning System to Larry Sessions of FDOT Structures. (Exhibit J)*
- February 4, 2005: Larry Sessions of FDOT Structures gives approval for production of the Modified Bulb-T Beams to begin again. (Exhibit K)*
- February 5, 2005: Production of Modified Bulb-T Beams begins again.*

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<sup>1</sup> At the hearing this date was corrected to be 01/13/05

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## 4.0 ADDITIONAL COMMENTS

*In JCI Letter JCI-170, Senior Project Engineer, Mark Cook, of JCI indicated that he was rejecting TMC Letters 79, 82, 86, and 91 (Exhibit L). His basis was that there was no delay by HNTB in the review, and that any additional time was due to a change in the Post-Tensioning System. TMC does not contend that the time of review by HNTB was the cause of the delay. What the point of contention is, is that the Post-Tensioning Package was not properly handled by HNTB and forwarded to FDOT Structures for review. As a matter of reference, Mr. William Hess, who is now handling the Structures Submittal Reviews for HNTB, continues to transmit all submittals to FDOT Structures for review.*

*It is through this point that TMC feels that Dura-Stress is entitled to equitable compensation for their delays. If HNTB has been thorough and complete in their review, forwarded to the appropriate channels, and JCI was attentive to ensure the proper submittal process was followed, no delay would have occurred.*

*TMC was pleased with the dedication that Larry Sessions of FDOT Structures gave to resolving this as soon as it was brought to his attention.*

## **DEPARTMENT'S POSITION:**

### **Summary of Dispute:**

*TMC's subcontractor girder supplier Dura-Stress in Leesburg that cast the Florida Bulb T Girders is claiming that they had crew standby costs for 11 days including February 6, 7, 8 while one or more of their casting beds was held up by FDOT State Structures review of already approved shop drawings.*

### **Jacobs CEI/ FDOT D5 Position:**

*Jacobs CEI finding is that TMC post tensioning system supplier VSL failed to submit a PT system that was compliant with the FDOT specifications. The original PT system submitted used traditional details no longer accepted by the specifications. VSL knew the specifications had changed and their engineers in Dallas, Texas were trying to get their new system approved with the FDOT state structures office. The Dura-Stress girders were delayed because the original PT system VSL "certified as meeting specs" was not in compliance with the specifications. VSL engineers had discussions about this with FDOT State Structures Larry Sessions, P.E., and changes were made such that FDOT had to review and certify the system that was ultimately used. That Dura-stress was delayed is not the fault of HNTB or FDOT. VSL was aware and should have alerted TMC and Jacobs that their system was undergoing change to meet the updated PT specifications and that they had to make changes to the system they had "certified" as a pre-qualified product. VSL should have kept TMC better informed and given FDOT a system that met the specifications in the first submittals or let it be known to all that their system was changing and under review so that TMC and Dura-Stress could have adjusted their schedules and so that Jacobs CEI, HNTB, and FDOT SS could have been made aware that changes were ongoing.*

### **Timeline of Events:**

*October 19, 2004 Jason Huges VSL gives TMC their proprietary Post Tensioning drawing details to be submitted. These show water-proof tape on joints which did not meet the FDOT specifications. (Ref. 3) Heat shrink wrap is the accepted method.*

*November 10, 2004: Florida Bulb T Girder shop drawings submitted by TMC to HNTB.*

*November 16 2004 HNTB email indicates they cannot review the shop drawings until they get the PT hardware details from TMC/VSL so that hardware and girder rebar layout can be checked for compatibility. (Ref. 9)*

*December 16, 2004 HNTB sends a second email indicating they cannot complete girder review until they get VSL hardware drawings. (Ref. 9)*

*December 23, 2004 VSL faxes HNTB the PT hardware drawings so that clearances with rebars can be checked. (Ref 9)*

*December 28, 2004: HNTB transmittal approves the girder shop drawings and sends them out. It is noted that HNTB did not review the VSL proprietary PT system as this was "certified to be previously approved" by FDOT. HNTB indicates it was not their responsibility as EOR to review the PT system – this is the proprietors responsibility to get their system approved by FDOT State Structures Office. HNTB cites the following:*

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### *Specifications 5-1.4.5 Submittal Paths and Copies:*

**5-1.4.5.1 General:** Shop drawings are not required for pre-qualified items. For non-pre-qualified items, determine the submittal path to be followed based upon the identity of the Engineer of Record as shown adjacent to the title block on the structural plan sheets, and on the key sheets of roadway plans, signing, and pavement marking plans, and/or lighting plans. At the pre-construction conference, the Department will notify the Contractor of any changes in the submittal path and whether the Department's or the Consultant's red-ink review stamp will signify an officially reviewed shop drawing.

**DEVELOPMENTAL SPECIFICATIONS - 74 - FPID(S): 240805-2-52-01, ETC. Specifications 462-2: Certification of Post-Tensioning Systems:** Use only post-tensioning systems that are approved by the Structures Design Office. Manufacturers seeking evaluation of their post-tensioning systems must submit test results to the Structures Design Office and include certified test reports from an independent laboratory audited by AASHTO Materials Research Laboratory (AMRL) which shows the post-tensioning system meets all the requirements specified herein.

January 5, 2005: TMC stamps in received approved shop drawings. (Refs. 3 & 10)

January 19, 2005: TMC in their letter #75 asks that HNTB and VSL not talk directly but to use TMC as the intermediary. (Ref. 4)

January 24, 2005: FDOT inspector Steve Voll at Dura-Stress yard indicates to HNTB Mike Leo, P.E., on telecon that Dura-stress is not using heat shrink wraps on the ducts joints. Mr. Leo, P.E., writes a letter to Jacobs CEI PA regarding the need to use heat shrink wraps per the **contract developmental specifications 462-4.2.6** (Ref. 5) TMC writes Jacobs notice of delays letter. (Ref. 6)

January 26, 2005: FDOT D5 Materials Operations Engineer John E. Tyler, P.E., email to FDOT D5 DCE Frank Odea, P.E., indicated that VSL was in the process of submitting their PT system to FDOT State Structures Office to Assistant State Structures Design Engineer Larry Sessions, P.E., and that Mr. Sessions was expecting to get something to review from VSL shortly. The email indicates that Dura-Stress had stopped forming the beds when told that the PT system had not been approved yet. (Ref. 7)

January 28, 29, 30, 2005: TMC PM Jeff Finck gathers girder shop drawings and VSL latest PT hardware drawings and sends these to FDOT SS Larry Sessions house for review on a Sunday. (Ref. 8)

January 31, 2005: Larry Sessions, P.E., reviews drawings but needs more information to be submitted from VSL.

February 1, 2005: TMC PM Jeff Finck email to Jacobs CEI stating delays due to "surprise review" by FDOT State Structures office Larry Sessions. (Ref. 8)

February 2, 2005: TMC PM Jeff Finck questions VSL PM Jason Hughes why these drawings had not been submitted back in the original submittals in Nov. 2004. Jason told TMC that their proprietary PT system was undergoing change to meet the new specifications and their new system warranted the inquiry from FDOT. VSL was in the process of getting their new PT system certified by FDOT State Structures Office. (Ref. 10)

February 3, 2005. VSL Project Engineer Zuming Xia, Ph.D in Dallas, Texas sends a letter to FDOT SS Larry Sessions, P.E., with their second submittal including the "outstanding tests and material certifications" requested in the first review. (Ref. 11)

February 4, 2005: FDOT SS Larry Sessions, P.E., gives email approval to the VSL PT system for use on this project. (Ref. 13) VSL provides drawings to TMC indicating these revised drawings have been approved for use by FDOT SS office. (Ref. 12)

February 7, 2005: Dura-Stress indicates they started back beam production. (Ref. 14)

February 8, 2005: 7:11 AM HNTB Mike Leo, P.E., email to FDOT inspector Steve Voll at Dura-Stress tells Steve that Dura-Stress must do the air test on the PT ducts. Dura-Stress indicates to FDOT Steve Voll they cannot pressure test corrugated metal duct as it will not hold air. Call to FDOT SS Larry Sessions, P.E., at 3PM - the air test is waived. (Ref. 14, 14a, 15)

February 18, 2005 Due to VSL error with epoxy coated spiral rebars Dura-Stress is again delayed. Leware & Ranger Construction Co. exert pressure on Dura-Stress and get their SR-40 girders cast ahead of TMC's girders. (Ref. 20)

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February 21, 2005: Dura-Stress replies to TMC letter stating backup data for costs for bridge beam production delays. (Ref 19)

March 8, 2005: TMC letter #91 puts FDOT on 5-12 notice of claim for extra work and delays as yet un-quantified. (Ref. 16)

April 11, 2005: Jacobs CEI letter stating their evaluation of the entire proceedings and states that TMC's claim is not valid, that HNTB did not delay anyone, and this matter is an issue between TMC and their suppliers to sort out. (Refs. 17 & 18)

October 25, 2005: Dura-Stress President G.K. Fuller, P.E., hands TMC a request for equitable adjustment for \$63,652.10 (Ref. 19)

December 7, 2005: TMC letter #153 notice of claim in the amount of \$57,135.70 due to eleven (11) lost days while FDOT was reviewing previously approved drawings. (Ref. 19)

### **HNTB Position & FDOT State Structures Advisory to DRB:**

HNTB & FDOT SS points to the specifications to help clarify their position:

5-1.4.5.1 Submittal Paths and Copies: **Shop Drawings are not required for pre-qualified items, (PT systems per 462-2).** For work (concrete beam shop drawings) requiring other documentation (e.g. PT system hardware) submit the required number of copies with the prints.

462-1.3 Shop Drawings: Prepare shop drawings to address all requirements stated in the plans and the requirements stated herein. Indicate the **approved post-tensioning systems to be used**. Show tendon geometry and locations complying with the plans and the limitations of the selected post-tensioning system. Show all inlets, outlets, high point outlet inspection details, anchorage inspection details and permanent grout caps, protection system materials and application limits.

462-2: **Use only post tensioning systems that are approved by the Structures Design Office....certify to the Engineer that the PT system being furnished is in compliance with all requirements stated herein.**

HNTB indicates they had responsibility to review the shop drawings for the girders and the PT system only to ascertain that the system meets the design intent and is compatible with the concrete beam dimensions and reinforcement shown in the beam shop drawings. HNTB states they did not have responsibility to ensure the VSL proprietary PT system was engineered correctly and approved for use on FDOT projects since it is a pre-qualified item. FDOT pre-approval of any proprietary post tensioning system is the responsibility of the manufacturer (VSL) as stated by section 462-2 of the specifications. VSL had originally submitted drawings that were "certified" to meet the FDOT State Structures Design Office requirements. HNTB's review of the original submittal did not include confirmation of pre-qualified status with FDOT SS office. HNTB position is that it is the responsibility of the manufacturer to ensure their product is compliant with FDOT specifications. Since the original system supplied by VSL did not meet FDOT SS approval, any delay incurred by Dura-Stress to modify the in-place system to meet the specifications is not the responsibility of HNTB.

The inspection system worked. FDOT inspector Steven Voll who does this inspection everyday in Leesburg recognized that the PT system being erected had features that were no longer accepted by FDOT and were out of date. Steve inquired and consulted with FDOT personnel about this and ultimately FDOT SS gave direction that the PT system being installed was not approved and the girder concrete pour could not proceed. VSL then had to submit revised drawings, letters, and a list of items, to FDOT SS office for review such that their system could be approved for use, all this in accordance with the Specifications 462-2. Adjustments were made, new materials were used, and the PT system was reinstalled and Dura-Stress completed the girder pour.

### **FDOT Conclusion and Recommendation to DRB:**

Jacobs CEI and FDOT D5 do not see entitlement for TMC's claim request. FDOT believes that Dura-Stress may have been delayed but this was a supplier - user issue to be handled internally by TMC between their suppliers. TMC of themselves do not have a claim in this issue yet they ask FDOT to be arbitrator and then pay for their suppliers issue resolution. Dura-Stress may be due some compensation but it not for FDOT to pay. FDOT believes they had been very helpful with timely reviews to get the new VSL proprietary PT system approved for use on our project. FDOT considers that the specifications are clear on this matter. FDOT does not see any entitlement for compensation to TMC and asks that the DRB find no entitlement and no compensation is due to TMC.

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### **BOARD FINDINGS:**

The Dispute Review Board has determined that the issue at hand involves the Department's approval of the Post Tensioning system and the procedure for this approval to occur; Section 5-1.4.5.1 General of the Standard Specifications that states in part, ". . . shop drawings are not required for pre-qualified items. For non pre-qualified items, determine the submittal path to be followed based upon the identity of the Engineer of Record as shown. . ."

Also included in the contract for the subject project is Developmental Specifications -74-FPID(s):240805-2-52-01, etc. Specification 462-2: Certification of Post Tensioning systems: "Use only post tensioning systems that are approved by the structures design office. Manufacturers seeking evaluation of their post tensioning systems must submit test results to the structures design office and include certified test reports from an independent laboratory audited by AASHTO Materials Research Laboratory (AMRL) which shows the post tensioning system meets all the requirements specified herein."

**From the position papers provided and the oral presentations to the DRB, this Board has determined the following:**

- The initial shop drawing submission for the Florida Bulb T girders was made November 10, 2004, from The Middlesex Corporation to HNTB. This submission, however, did not include the necessary post tensioning system details to allow HNTB to review the post tensioning system clearances with the reinforcing steel in the Bulb T girders. It is noted here that, in accordance with Developmental Specification Section 462-2, it is the Department's structural design office that is solely responsible for pre-qualifying all post tensioning systems to be used in the Department's post tensioned bridge decks. Engineers of Record have no input in this approval procedure. It is not until December 23, 2004 that HNTB receives, by fax, the post tensioning hardware drawings from the supplier (VSL) that permits HNTB to review reinforcing steel clearances only.
- On December 28, 2004, HNTB transmits approval of the Bulb T girder shop drawings. As it turns out, the post tensioning system provided by VSL to HNTB is an out of date system that does not meet current DOT specifications. This fact is not discovered until January 24, 2005 when the Department's inspector at the Dura-Stress plant notifies HNTB, who subsequently notifies Jacobs Civil Inc. that Dura-Stress is not using heat shrink wraps on post tensioning conduits in the Bulb T girders. Following this disclosure, it was not until February 3, 2005 that VSL submits the last of the details of its new post tensioning system to the state structures office for approval certification. On January 04, 2005, the state structures design office issues approval to VSL of its revised post tensioning system for inclusion in the Bulb T girders to be cast for this project. Dura-Stress resumes Bulb T fabrication on February 7, 2005.

It is sometimes argued that a DRB will provide a recommendation that ignores the contract or is somewhere in between the positions taken by each party; in effect, a compromise. **It is not the DRB's prerogative to substitute its own ideas of fairness and equity for the provisions of the contract. . .**<sup>2</sup>

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<sup>2</sup> DRBF Practices and Procedures Section 1 – Chapter 6

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### **BOARD RECOMMENDATION:**

**Based on the materials supplied to the Board and presentations to the Board at the DRB hearing, the Board does not find entitlement to additional compensation or contract time for The Middlesex Corporation and/or Dura-Stress Inc. for the alleged delays caused by FDOT and/or HNTB on the above referenced project.**

This Board sincerely appreciates the cooperation of all parties and the information presented for its review in making this recommendation.

Please remember that a response to the DRB and the other party of your acceptance or rejection of this recommendation is required within 15 days. Failure to respond constitutes an acceptance of this recommendation by the non-responding party.

I certify that I have participated in all of the meetings of this DRB regarding this issue and concur with the findings and recommendations.

Respectfully Submitted  
Disputes Review Board

John H. Duke Sr., DRB Chairman  
Gerald H. Stanley; DRB Member  
Gary T. Geddes; DRB Member

SIGNED FOR AND WITH THE CONCURRENCE OF ALL MEMBERS:

A handwritten signature in black ink, appearing to read "John H. Duke Sr.", written in a cursive style.

John H. Duke Sr.  
DRB Chairman