

**DISPUTE REVIEW BOARD RECOMMENDATION**  
**FEBRUARY 12, 2021**

**PROJECT**  
**I-95 EXPRESS PHASE 3A-1**  
**BROWARD COUNTY, FLORIDA**  
**FINANCIAL PROJECT NO. 433108-4-52-01**  
**CONTRACT NO. E4Q32**

**INTRODUCTION:**

The de Moya Group (dMG) on July 7, 2015, entered into a contract with the Florida Department of Transportation (Department) to design and construct the I-95 Express Phase 3A-1 widening project between Oakland Park Boulevard and Commercial Boulevard Interchanges (Project) in response to the Department's Request for Proposal (RFP).

During the course of the Project, settlement of a portion of the existing southbound I-95 bridge over NW 6<sup>th</sup> Street was observed which resulted in the closures of southbound I-95 lanes in the vicinity of the bridge.

Via its letter dated July 21, 2020, dMG provided written notice to the Department of its intent to claim for issues related to settlement of the existing southbound I-95 bridge over NW 6<sup>th</sup> Street. The Department and dMG have been unable to reach an agreement on the issue.

On December 16, 2020, the dMG submitted a request to the Dispute Review Board (DRB) of the Project for a DRB Hearing and recommendation regarding entitlement of User Delays for southbound I-95 lane closures at the NW 6<sup>th</sup> Street Bridge. The DRB Hearing "Issue Statement" presented by dMG is:

*"In accordance with Specification 8-12.1, is the Department within its contractual rights to withhold damage recovery/user costs from the monthly estimate contract payments for lane closures along I-95 over NW 6<sup>th</sup> Street Southbound Bridge?"*

The issue statement is for the period of time of lane closures along southbound I-95 which are required to ensure public safety during the period of investigation and correction/repair of the existing I-95 southbound bridge.

The Department and dMG agree that the DRB Hearing and DRB recommendation for the issue is only related to entitlement and not quantum.

dMG and the Department presented their Position Papers and Rebuttal Papers to each other and to the DRB prior to the DRB Hearing and provided testimony at the DRB Hearing. The DRB Hearing was held on February 4, 2021, via teleconferencing.

## **ISSUE OVERVIEW:**

The existing southbound I-95 Bridge over NW 6<sup>th</sup> Street consists of the original I-95 southbound structure completed in the 1970's and a subsequent southbound adjacent widening completed in the 1990's.

Each of the intermediate piers (Piers 2 & 3) of the 1970's structure consist of prestressed concrete piles supporting three concrete columns with a concrete cap and seven (7) prestressed concrete beams.

The intermediate Piers 2 & 3 of the adjacent widening which occurred in the 1990's consist of prestressed concrete piles (approximately 22 feet in length with tip elevations in sand material at approximately elevation -15 feet) supporting single column piers with a concrete cap and two (2) prestressed concrete beams on Spans 1 and 3 and three (3) prestressed concrete beams on Span 2.

The I-95 southbound outside widening over NW 6<sup>th</sup> Street performed under dMG's contract consists of single 48-inch drilled shafts at each of the intermediate piers (Piers 2 and 3). The center of the drilled shafts were a distance of approximately 10' + to 11' + from the centers of the existing 1990's foundations and extended at least five feet into limestone located approximately 64 feet below grade at elevation – 55 feet. Steel casings were installed to support the drilled shaft excavation through the soils and weathered limestone until limestone bearing formation was encountered. The casings were installed utilizing a vibratory hammer.

The drilled shafts were installed between October 30, 2019 and November 17, 2019. No additional drilled shaft work was performed at NW 6<sup>th</sup> Street after November 2019, although some concrete column work was. On July 21, 2020, dMG's survey crew noticed settlement of the existing 1990's Piers 2 and 3 and the beams of those structures to be "floating."

As a result of the observed settlement on July 21, 2020, and to insure public safety, the southbound I-95 auxiliary lane between Sunrise Boulevard southbound on-ramp and Broward Boulevard southbound off-ramp has been closed from July 21, 2020, to the present, and southbound I-95 general purpose Lane 5 in the area of NW 6<sup>th</sup> Street was closed from July 23, 2020, through September 4, 2020.

The Department has withheld damage recovery/ user costs from dMG's monthly estimate contract payments for the closure of the southbound I-95 general purpose Lane 5 in the area of NW 6<sup>th</sup> Street from July 23, 2020, through September 4, 2020. dMG is seeking entitlement for the money the Department withholds from the monthly estimate contract payments for the closure of the southbound I-95 general purpose Lane 5 related to the settlement of the existing southbound I-95 bridge over NW 6<sup>th</sup> Street.

## **DMG'S POSITION:**

The Department cannot withhold damage recovery/user costs from the monthly estimate contract payments for lane closures along I-95 because:

1. The Department's own acts and omissions, by neglecting to act on numerous inspection reports over the past 26 years which documented damages to the existing I-95 bridge structure over NW 6<sup>th</sup> Street, created the necessity to close a portion of the bridge to the public. Specifically, the Department has failed to act on numerous inspection reports documenting damages to the existing structures, has failed to perform required repairs, and has failed to perform the necessary forensic investigations as to the cause of such damages.
  - a. The Department's acts and omissions and its wrongful assessment of penalties constitute a willful attempt to impose financial hardship on dGM and its subcontractors, crippling the progress of the project which is so vital to the local community.
2. The Department has no evidence that dMG is in any way responsible for the structural defects to the existing bridge that resulted in the lane closure. dMG has performed all work at NW 6<sup>th</sup> Street as required by the contract and in accordance with the contract documents, without fault or contractual responsibility for the lane closure issue.
  - a. The FDOT has not demonstrated causation to impose lane closure penalties on dMG. The cause of the settlement of the existing bridge is unknown as the Department failed to conduct investigations which may have revealed the cause of earlier structural defects noted in its maintenance records.
  - b. The cause of settlement of the existing bridge can be attributed to:
    - i. Lack of proper maintenance of the bridge over the past 26 years which left pier cracks open and exposed since 1994
    - ii. Vibrations from adjacent railroad trucks
    - iii. Utility installations (borings) by others
    - iv. Vibrations related to the Caribbean earthquakes of January 28, 2020
    - v. Settlement of existing bridge foundations founded on 22-ft piles driven to length without geotechnical boring data or supporting test pile records
  - c. The four drilled shafts for the contract bridge widenings required by the Request for Proposal (RFP) at NW 6<sup>th</sup> Street were installed between October 30, 2019, and November 17, 2019, and were constructed in accordance with the Department approved Released for Construction Plans, Drilled Shaft Installation Plan, and Settlement and Vibration Monitoring Plan. The drilled shafts were certified by the Engineer of Record (EOR) and subsequently approved and accepted by the Department.
  - d. On January 16, 2020, (59 days after completion of the last drilled shaft at this location) the Department performed its biannual maintenance inspection of the existing bridges. The Department's inspection report does not indicate any evidence of settlement of the existing 1990 bridge structure and it lists only hairline cracks at the pier caps, referencing the same conditions as documented in the 1994-1998 reports.

- e. dMG did not perform any work at these bridges from November 2019 to July 2020 when dMG surveyor noticed the southbound beams “floating.”
  - f. Given the fact that the Department’s biannual maintenance inspection occurred two months after the drilled shafts operations and no structural deficiencies were noted, the Department cannot reasonably conclude the dMG’s drilled shafts operations in any way contributed to the deficiencies discovered at these bridges by dMG survey crews in July 2020 (eight months after dMG performed work at this location) and as documented by the Department’s Special Inspection Report of July 23, 2020.
  - g. dMG followed the Department’s approved Settlement and Vibration Monitoring Plan (SVMP) during the installation of the drilled shafts at NW 6<sup>th</sup> Street in all respects. The Department’s approved SVMP did not require any vibration or settlement monitoring of the existing NW 6<sup>th</sup> Street Bridge during the drilled shaft operations; therefore, none was performed. The Department did not provide any comment of requiring any vibration or settlement monitoring of the existing NW 6<sup>th</sup> Street Bridge when it commented on and approved the SVMP.
  - h. The contract documents did not require any special investigations or protection measures for these Department owned structures. Specification 108 states, *“Inspection and documenting the condition of bridges, sign, signal, lighting and ITS structures owned by the Department is not required except when shown in the Contract Documents.”*
3. There have been no material user delays realized as a result of the lane closures to date that would allow the Department to withhold damage recovery/user costs. The lane closures were required to ensure public safety and perform extra work on a 50-year-old bridge with pre-existing damage dating back to 1994. dMG performed emergency repairs to the caps including epoxy injection and temporary shoring.
- a. There are no material user delays being experienced by drivers as a result of the lane closures and no third-party payments have been made which can be recovered.
  - b. There have been no public complaints received by the Department and/or reported by its Public Information Officer (PIO) regarding the closures.
  - c. Traffic has been at record lows due to the Covid crisis since the required closures have been in place beginning July 2020.
4. The closures resulted from work imposed on dMG that is beyond the scope of the contract, were necessitated to ensure public safety and have not resulted in any actual payments for damages to third parties.
- a. Unforeseen and extra work required at NW 6<sup>th</sup> Street cause by Department’s acts and omissions does not trigger damage recovery by the Department under Specification Section 8-12 as it is not a part of the contract “work.”

- b. At December 14, 2020 escalation meeting, Gerry O'Reilly, the Department's District 4 Secretary, stated that application of Specification Section 8-12 to this situation "...is not the intent of the spec."
- c. The Department's internal email of 7/24/20 stated, "*The intent of the spec is to recover damages caused by not opening up the lanes after a nighttime lane closure.*"
- d. Specification 8-12.1 is intended for the Department to recover amounts paid for damages suffered by third parties. To date, no third-party damages have been reported and no payments for third-party damages have been made for the Department to recover.
- e. Specification 8-12.1 acknowledges that the damage recovery/user cost will not be applied if the lane closures are beyond the control of the Contractor. The required closures for public safety are well beyond the control of dMG.

dMG Position Paper Exhibits:

- 1. FDOT Acts and Omissions
- 2. FDOT Biannual Inspection Reports (1994 - 2020)
- 3. Email Correspondence RE: FDOT Bridge Inspection Reports
- 4. FDOT Bridge & Other Structures Inspection and Reporting Manual (850-101-30)
- 5. USDOT/FHWA Bridge Maintenance Reference Manual (BMRM)
- 6. FDOT Bridge Maintenance & Repair Handbook
- 7. JACE Letter to de Moya, January 5, 2021
- 7A. Structures Design Guidelines
- 8. FDOT Biannual Inspection Report of January 16, 2020
- 9. FDOT Special Inspection Report of July 23, 2020
- 10. FDOT Approved Settlement and Vibration Monitoring Plan
- 11. FDOT Approved Drilled Shaft Installation Plan and Drilled Shaft Certifications
- 12. Existing I-95 Bridge Pile Driving records / Request for Test Pile Data
- 13. FDOT Meeting Minutes of 7/28/20 (RE: Little to no Traffic Impacts)
- 14. Florida Turnpike Enterprise Performance Dashboard June 2020
- 15. Revenues to State Transportation Trust Fund, Revenue Estimating Conference report of August 7, 2020
- 16. FDOT I-95 Crash Data, August 2019 and August 2020
- 17. dMG Public Records Request and FDOT Response of 12/30/20
- 18. PowerPoint (Escalation Agenda, updated 1/3/21)
- 19. NOI Correspondence: dMG Letter of 9/17/20
- 20. FDOT Division One Specification 8-12 (Contract E4Q32)
- 21. Florida Statute 337.18
- 22. dMG to FDOT Escalation Emails
- 23. FDOT Internal Emails RE: Damage Recovery

## **DMG'S REBUTTAL:**

1. The Department failed to timely share information with dMG that would have mitigated impacts.
  - a. The Department withheld critical inspection reports (1994, 1996, 1998, 2020) from dMG and its Specialty Engineer since these reports undermined the Department's position that dMG was to blame for the bridge damages.
2. The Department failed to provide any evidence that dMG is in any way responsible for the structural defects to the existing bridge that resulted in the need for lane closures.
3. The Department's January 26, 2020, biannual inspection report of the existing bridge confirms that the existing bridge was not experiencing any settlement two months after completion of the drilled shafts.
4. There have been no material user delays.
  - a. Traffic was at record lows during Covid crisis during the closure period
  - b. The Department's crash data shows a 30% decrease in incidents during the closure period
5. The lane closures resulted from work imposed on dMG that was beyond the scope of the contract.
6. The Department has made no payments to third parties for damages. In accordance with the plain terms of the specifications and Florida Statute, the Department is entitled only to "reimbursement" of monies actually paid out to third parties for damages; in this case there were none.
7. It is unknown what caused the settlement on the NW 6<sup>th</sup> Street existing bridge.
8. The Department's various acts and omissions regarding maintenance obligations can be attributed directly to the need to close the bridge for public safety.
9. The Department's January 16, 2020, biannual inspection report of the existing bridge does not note any settlement, deficiencies of the bearings, loss of contact between the beams and pedestals or rotation of the piers.
10. The Department's January 16, 2020, biannual inspection report provides compelling evidence that settlement was not caused by the drilled shaft work.
  - a. No settlement is noted
  - b. The condition of the joint between spans as "no change" from the prior inspection of 2018. The Department's Special inspection of July 23, 2020, reviews the same joint location and denotes settlement between the spans.

- c. The Department's January 16, 2020, inspection report states, "*Since the current load rating dated 07/31/19, there is no indication that deterioration, geometric changes or additional dead load have occurred...*"
11. The Department has provided no evidence that settlement was caused by dMG's operations.
  - a. The Department offers no proof to substantiate the allegation that bridge settlement occurred "directly after" the drilled shaft work by dMG.
  - b. The Department's Exhibit 9 photos taken in November 2019, which claim to show evidence of visible settlement in barrier wall at Pier 3, were taken at night at a significant distance from the bridge barrier wall at ground level, obstructed by construction equipment, and offer no conclusive evidence of settlement. Settlement was not documented by the Department's January 16, 2020, biannual inspection report.
  - c. The Department's Exhibit 10 aerial photo taken a week after the completion of the drilled shaft operation shows ponding on the outside shoulder which the Department claims is an "indication of settlement." dMG's Rebuttal Exhibit 1 includes Photo evidence via Google Maps of the bridge from December 2014 and April 2016 and an aerial photo from July 2019 show ponding on the outside shoulder. If ponding is evidence of settlement as stated by the Department, then clearly the bridge had settled prior to dMG's drilled shaft operations.
  - d. dMG's drilled shaft work took place in October and November 2019 and cannot be considered as the "direct" cause of the bridge distress and damages documented in July 2020 but not documented in January 2020.
12. The Department's bridge inspection reports document that the existing NW 6<sup>th</sup> Street Bridge initially settled in 1994 during construction of the adjacent widening (before the drilled shaft work), and also provide clear evidence of additional settlement occurring between January 2020 and July 2020 (after the drilled shaft work).
13. The Department claims the settlement of the existing bridge was not an unforeseen condition. Thus, per the SDG the Department has the obligation to disclose any concerns with the structural integrity of the existing bridge or to stipulate any rehabilitation/strengthening work that may be required to safely widen the bridge in the RFP.
14. As confirmed by the Department on page 8 of its Position Paper, the 2014 Department Inspection report was the only report provided as Reference Document to bidders during the procurement period. That report does not list any special concerns that would need to be considered for the required widening of the existing NW 6<sup>th</sup> Street Bridge.
15. During the review of the issues at the NW 6<sup>th</sup> Street Bridge, the Department's State Construction Structures Engineer stated, "*there may be some oddball geotech conditions here*" which acknowledged that what the bridge was experiencing was not typical.

16. dMG is within its rights to assume the Department properly performed its required maintenance and inspection duties over the years and ensured its structure was suitable for widening or otherwise document such concerns in its RFP.
17. dMG accepted full control and responsibility for the design and construction of this project in accordance with the contract documents.
18. dMG provided reasonable inspections of the existing conditions and found no issues at this location which would subject the bridge widening to specialized designs or construction methods.
19. The Department falsely claims dMG did not adhere to its Technical proposal in the construction of the drilled shafts. The Technical Proposal states that for abutments, preforming of drilled shafts will be used as-needed or provisions will be made to install casing using a 'drilling method,' instead of being driven with a hammer or vibrated in. The drilled shafts at the NW 6<sup>th</sup> Street Bridge were installed in accordance with the Technical proposal, the approved Drill Shaft Installation Plan (DSIP), and the Settlement & Vibration Monitoring Plan (SVMP).
20. The SVMP did not include any requirements to monitor the existing 6<sup>th</sup> Street Bridge. The Department reviewed and approved the SVMP per the Department's RFP obligation.
21. dMG and its engineers interpreted the Specifications (455 and 108) during the preparation and submittal process of the SVMP in the same manner as the Department did when it approved the SVMP. The interpretation being that monitoring of the existing NW 6<sup>th</sup> Street Bridge was not required unless specifically noted in the contract documents.
22. Even if settlement and vibration monitoring had been required by the approved SVMP, it is unlikely monitoring would have stopped the unusual settlement from occurring eight months after completion of the drilled shaft work.
23. The repairs and resulting lane closures are not part of the contract "work," therefore, in accord with Specification 8-12, dMG cannot be held responsible for damage recovery/user costs.
24. The repairs and resulting lane closures of the existing bridge is "extra work," not otherwise covered or included in the project by the contract documents.
25. No one knows exactly what happened to this bridge or when. The Department has failed to conclusively establish that the settlement of the bridge was not unusual and was specifically a reaction to the drilled shaft operations and not due to a latent defect or the result of its own acts and omissions.



dMG Rebuttal Paper Exhibits:

1. Google Maps and Aerial Photos (Ponding)
2. E4S44 Request for Proposals (I-95 Phase 3C Design Build)
3. FDOT State Construction Structures Engineer Email (8/7/20)
4. Reports of South Florida Earthquake Effects (January 29, 2020)
5. dMG Public Records request Status Update request (1/20/21)

### **THE DEPARTMENT'S POSITION:**

1. The Department is within its Contractual rights to withhold damage recovery/user costs from the monthly estimate Contract payments for lane closure along I-95 over NW 6<sup>th</sup> Street Southbound Bridge as a result of settlement of the existing intermediate piers 2 and 3 caps due to dMG's operation.
2. Specification 8-12.1 gives the Engineer the discretion to not withhold the damage recovery costs if the cause of the closures is beyond the Contractor's control.
3. dMG has full responsibility of the Contract and the settlement was caused by actions in their control.
  - a. dMG failed to adhere to contractual obligations
    - i. dMG did not monitor the settlements during the shaft installation which could have prevented the settlement and subsequent damage on the adjacent structures.
    - ii. dMG did not protect existing structures (existing NW 6<sup>th</sup> Street) as required by Division I Specification 7-14.
    - iii. dMG is responsible for establishing maximum settlement and vibration thresholds equivalent to or lower than the Department Specifications requirements for all construction activities.
    - iv. No due care was done to ensure that the vibration levels on the existing bridge foundations were not exceeded as required in RFP Section VI Subsection B, Division II Specification 455 and RFP Section X.
    - v. dMG did not implement and adhere to their Approved Settlement and Vibration Monitoring Plan (SVMP).

- b. The settlement was caused by dMG's operations (means and methods)
  - i. The cap sustained structural damage as a direct result of the dMG's drilled shaft operations and settlement of the foundation causing excessive load on the existing 1970's cap. Until dMG caused the settlement of the foundation and structural damage to the bridge, the substructure of the bridge was in good condition as shown on page 1 of the 2014 inspection report.
  - ii. dMG did not use correct installation measures by utilizing a vibratory hammer to drive the casing for the drilled shafts at NW 6<sup>th</sup> Street Bridge thus violating the provisions set forth by dMG in its Technical Proposal wherein dMG stated it would utilize a "drilling method."
  - iii. High vibration levels caused soil liquation and could have caused the NW 6<sup>th</sup> Street Bridge piers to settle.
- c. The settlement was caused by dMG's design
  - i. Change of the foundation type from piling, which was foundation of the adjacent existing structure, to drilled shaft.
- d. Through the use of Reference Documents, dMG was well aware of the conditions of the existing bridge structures.
  - i. All information provided in the RFP reference documents has been verified to be accurate. No differing site conditions were encountered that were not presented in the Reference Documents.
- c. Consequences of not protecting the adjacent existing bridge structure as required by the RFP Section VI Subsection B, Division I Specifications 7-11 & 7-14, and Division II Specification 455, caused the Contractor to:
  - i. Perform non-compensable extra work
  - ii. Compensate the Department for damage recovery as detailed in Specification 8-12.1
- 4. Two lane closures along I-95 over NW 6<sup>th</sup> Street Southbound Bridge were required to ensure protection of the traveling public. These extended lane closures were beyond the allowable lane closure timeframes in the Contract.

The Department's Position Paper Exhibits:

1. Executed Contract
2. Request for Proposal
3. NOI No. 26
4. RFC Foundation Plan Sheet B4-11
5. CEI & FDOT Reports
6. Pre-Drilled Shaft Construction Photos
7. Foundation Certification Package – Pier 2
8. Foundation Certification Package – Pier 3
9. Photos During Pier 3 Operations
10. Aerial
11. RFP Q & A
12. Bridge 860272 – Existing Plans
13. Geotechnical Reports
14. 70's and 90's Pile Driving Records
15. Bridge Load Rating
16. 2014 Bridge Inspection Report
17. Technical Proposal
18. ATC Summary
19. Dailies
20. Spec 455-1
21. SVMP
22. Email – Survey Data
23. Spec 1-3
24. Spec 5-2
25. Spec 7-11.1
26. Spec 7-14
27. Spec 8-12
28. Spec 8-10
29. Spec 9-11.3

**THE DEPARTMENT'S REBUTTAL:**

1. During the timeframe from July 21, 2020 to September 4, 2020, (Lane 5 was opened on September 4, 2020) there were significant delays encountered as documented in Travel Time and Delay Study Field Summary.
  - a. 7/21/20 – 9/4/20 Average travel speed was in very low 30 mph as compared to the posted speed limit of 65 mph. September 8, 2020, average travel speed was on the low 60 mph.
2. The Department agrees that the lane closures were required to protect the public.

3. The cracking of the existing pier caps as reported in the Department's 1994 bi-annual bridge inspection reports (and even the 2014 bridge inspection report included in the RFP) were identified as hairline/superficial cracks, not structural in nature and had no effect on the strength or serviceability of the structure.
4. The emergency repairs performed by dMG were due to settlement and structural damage that was directly caused by the contractor's operations.
5. Only in July 2020, after construction activities, were structural cracks identified as a direct result of the settlement that occurred in November 2019.
6. dMG's drilled shaft operations, within 4.5 feet of the existing foundation, directly caused the settlement of the foundation during the construction of the two shafts.
7. dMG did not use a construction method that would have prevented the excessive settlement that occurred on the adjacent foundation.
8. Column work occurred at NW 6<sup>th</sup> Street Bridge between May 13, 2020 and June 16, 2020.
9. Photographs showed differences in elevation of the barrier wall during and after drill shaft operations were completed.
10. There were no structural cracks or concerns prior to the start of drilled shaft operations. The structural cracks and "floating" beams were identified in July.
11. Due to the settlement of the intermediate piers, the excessive load caused structural cracking to the existing 1970's hammerhead cap.
12. Specification 108 (regarding inspection and monitoring existing structures) is not part of the Contract Specifications. Division I Specifications and Design-Build Specification 455 are included in the Contract as an attachment to the RFP. Specification 455 clearly identifies the requirement to monitor bridge #560272 (6th Street Bridge). dMG admits it failed to monitor the bridge.
13. Certification of the shafts by the EOR and acceptance by the Department does not relieve dMG from properly monitoring the bridge for settlement and protect the bridge from damage during construction.
14. All reference documents provided in the RFP are accurate representations of the field conditions and therefore not an error or omission on the Department.
15. There was no lack of proper maintenance as there are no Bridge Inspection reports that document structural failures. If there was lack of maintenance, which there was not, possible lack of maintenance of concrete cap has no impact on the settlement of foundation.
16. To date, there has been no reported settlement of bridge structures due to the railroad.

17. There were no recorded borings during the time period of late October 2019 to late November 2019 that would have caused settlement.
18. Assessment of damage recovery/user costs for failure to open traffic lanes is not done in response to actual payments made by the Department to third parties. The withholding of damage recovery/user costs is a contract condition for the contractor's failure to open traffic lanes. The damage recovery/user costs for failure to open traffic lanes is a separate paragraph within the Specifications and is not tied to payments made to third parties. This is a term of the contract which dMG agreed to when they signed the contract.
19. The Department agrees that the lane closures were required as a direct result of damage to the existing bridge.
20. World and National Pandemics, Turnpike Revenues, State Transportation Fund and Department Crash do not play a part nor are part of the calculations when the Department determines Road User Costs (RUC) to establish the Damage Recovery Costs that are part of the Contract Documents and listed in Specification 8-12.1.
21. Specification 7-11.1 of the contract states, "Protect existing bridges during the entire construction period from damage caused by the Work. Immediately repair, at no expense to the Department, all damage to existing bridges caused by the Work, prior to continuing the Work." dMG entered into a contract to widen the existing bridge. Their actions damaged the bridge. DMG has a contractual duty to repair the bridge.
22. The intent of the Specification is for the contractor to complete the Work without causing undue impacts to the traveling public. dMG's actions, means and methods damaged the bridge, which necessitated closing lanes to travel. These closures resulted in impacts to the public and damage recovery/user costs assessed per Specification 8-12.1.
23. dMG fails to present any contractual evidence, in their position paper, that the Department is responsible for the settlement of the bridge.
24. Dan Brown's opinion letter (Exhibit 8) states:
  - a. Report is based on information he reviewed.
  - b. The existing piers are reported to have undergone settlement immediately and shortly after the construction of the new piers.
  - c. Distress in the form of cracking in the concrete pier caps is attributed to the relative movements
  - d. Casing was driven into the weathered limestone using a vibratory hammer.

- e. Construction of the drilled shafts foundations caused the settlement of the existing piers. The installation of the steel casing using a vibratory hammer in such proximity to the existing foundations would be expected to produce vibration-induced compaction of the loose to medium dense sands below the piles supporting these footings and causing the settlement that was observed.
- f. These piles are likely to be subject to additional settlement in the future as fluctuations in load are applied to the piles because the load-settlement response is now softer. Some additional creep-induced soil movement is also possible.

The Department's Position Paper Exhibits:

- 1. Travel Time log
- 2. TMC CCTV Photos
- 3. 1994 & 2014 BIR
- 4. Photos During Pier 3 Operations
- 5. Spec 400-21
- 6. D4 Structures Maintenance QMP
- 7. D4 Bridge Maintenance Manual
- 8. DBA-DRB Opinion Paper
- 9. Attachment 1 Responses
- 10. Soils Foundation manual – Chapter 9
- 11. RITIS Congestion Reports
- 12. DRB Presentation

## **THE DRB'S FINDINGS/DETERMINATION/EXPLANATION:**

Specification Section 8-12.1 reads as follows:

*8-12.1 Recovery of Damages Suffered by Third Parties.*

*In addition to the damages provided for in 8-10.1 and 8-10.2 and pursuant to Section.337.18 of the Florida Statutes, when the Contractor fails to complete the work within the Contract Time or within such additional time that the Department may grant the Department may recover from the Contractor amounts that the Department pays for damages suffered by third parties unless the failure to timely complete the work was caused by the Department's act or omission.*

*A damage recovery/user cost will be assessed against the Contractor if all lanes are not open to traffic during the times as specified in Section VI, Subsection M, Item 3 "Traffic Control Restrictions" of the Request for Proposal (RFP). Costs will be assessed beginning at the appropriate time as shown in Section VI, Subsection M, Item 3 "Traffic Control Restrictions" and continue until all lanes are open as recorded by the Engineer. This assessment for each road and amount will be as follows:*

*For I-95 and ramps:*

*First 30 minutes and under:.....\$10,000.00*  
*Each additional 30 minute period or portion thereof: .....\$10,000.00*  
*Such costs will not exceed \$ 100,000.00 over a 24 hour period.*

*For Oakland Park Blvd.*

*First 30 minutes and under:.....\$5,000.00*  
*Each additional 30 minute period or portion thereof: .....\$5,000.00*  
*Such costs will not exceed \$ 50,000.00 over a 24 hour period.*

*For Commercial Blvd.*

*First 30 minutes and under:.....\$5,000.00*  
*Each additional 30 minute period or portion thereof: .....\$5,000.00*  
*Such costs will not exceed \$ 50,000.00 over a 24 hour period.*

*At the discretion of the Engineer, damage recovery/user cost will not be assessed for failure to open traffic lanes if such cause is beyond the control of the Contractor, i.e., catastrophic events, accidents not related or caused by the Contractor's operations.*

*The Department will have the right to apply as payment on such damages any money which is due to the Contractor by the Department.*

The southbound Lane 5 of I-95, in the vicinity of the I-95 Bridge over NW 6<sup>th</sup> Street, was closed continuous from July 21, 2020 through September 4, 2020, to insure public safety during the investigation and correction/repair of the existing I-95 southbound bridge. However, investigations and correction/repairs have not yet been completed, thus, there may be additional southbound I-95 lane closures in the future related to the situation.

**Third-Party Payments as A Requirement for Withholding User Costs:**

dMG's position is there have been no material user delays realized by drivers as a result of the closures and no third-party payments have been made by the Department which can be recovered. Thus, the Department does not have the right to withhold damage recovery/ user costs from the monthly estimate payment.

The Department acknowledged that no third-party payments have been made; however, the Department noted that assessment of damage recovery/user costs for failure to open traffic lanes under Specification Section 8-12.1 is not done in response to actual payments made by the Department to third parties. The Department stated damage recovery/user costs for failure to open traffic lanes is a separate paragraph within the Specifications and is not tied to payments made to third parties. The withholding of damage recovery/user costs is a contract condition for the contractor's failure to open traffic lanes by a specified time.

Based on the information provided in the parties' position and rebuttal papers and testimony given at the Hearing, the DRB finds that according to Specification Section 8-12.1, payments by the Department to a third-party is not a requirement for the Department to be able to withhold damage recovery/ user costs from the monthly estimate payment for lane closures that are not reopened to traffic during the times as specified by the Contract Documents.

**Acts and Omissions by the Department:**

dMG's position is that the Department's own acts and omissions, by neglecting to act on numerous inspection reports over the past 26 years which documented damages to the existing I-95 bridge structure over NW 6<sup>th</sup> Street, created the necessity to close a portion of the bridge to the public.

The Department performed bi-annual inspections of the existing bridge. The Department's inspection reports provided in the parties' position and rebuttal papers for the period of May 16, 1994, through January 16, 2020, were each signed by a Registered Professional Engineer. None of those reports recorded deficiencies to the piers or beams that warranted a necessity to close a portion of the existing bridge to the public.

Although the Department's bi-annual inspection reports prior to July 21, 2020, (the date of observed settlement of the existing bridge) did record typical hairline cracks on diaphragms and hairline cracks on intermediate pier caps, none of the reports suggested crack repairs other than epoxy injection of the cracks. None of the reports recorded misalignment of bridge barrier wall. The last bi-annual inspection report, January 16, 2020, which took place 59 days after the completion of the drill shaft installation, noted there was no indication that deterioration, geometric changes or additional dead load have occurred that would warrant a new load rating analysis from the current load rating dated July 31, 2019.

dMG acknowledged the Department's biannual inspection reports of the existing bridge do not note any settlement of the piers, deficiencies of the bearings, loss of contact between the beams and pedestals or rotation of the piers.

Based on the information provided in the parties' position and rebuttal papers and testimony given at the Hearing, the DRB finds that the bridge settlement observed on July 21, 2020, necessitated the closure of a portion of the existing bridge to the public at that time and not the reported condition of the bridge on or prior to January 16, 2020, as documented by the Department's bi-annual inspection reports.

The DRB also finds the Department's biannual inspection reports of the existing bridge, which are signed by a Registered Professional Engineer and do not record evidence of settlement of the intermediate piers or misalignment of the barrier wall at the intermediate piers, provide an accurate observed condition of the existing bridge through January 16, 2020.

**Responsibility for Cause of Settlement of the Existing Bridge Which Resulted in Lane Closures:**

Specification Section 8-12.1 states that at the discretion of the Engineer, damage recovery/user costs will not be assessed for failure to open traffic lanes if such cause is beyond the control of the Contractor, i.e., catastrophic events, accidents not related or caused by the Contractor's operations.

dMG's position is the Department has no evidence that dMG is in any way responsible for the structural defects to the existing bridge that resulted in the lane closures.



The Department's position is the settlement of the existing bridge foundations was a direct result of dMG's drilled shaft operations. It is the Department's opinion that the installation of the drill shafts casing using a vibratory hammer caused the settlement to occur during and shortly after the drilled shaft installation. However, the Department's own biannual bridge inspection conducted on January 16, 2020, (59 days after the completion of the drilled shafts), did not note any settlement, deficiencies of the bearings, loss of contact between the beams and pedestals or rotation of the piers of the existing bridge. Furthermore, the Department did not provide scientific or engineering evidence to support its opinion.

The Department noted that in accordance with Specification Section 445, dMG was required to monitor possible settlement of the existing bridge during the drilled shaft operations and contends that such monitoring could have prevented the settlement and subsequent damage on the existing structure, but dMG failed to monitor as required. dMG acknowledged that it did not monitor for possible settlement of the existing bridge during the drilled shaft operations. dMG stated it was not required to monitor the existing bridge for drill shaft installation.

Specification Section 445 notes that all types of structures (on or off the right-of-way) that may be adversely affected by foundation construction operations in close proximity to existing structures are to be surveyed and monitored for settlement in a manner accepted by the Engineer. The structures to be monitored are noted as those (1) as shown in the Contract Documents, (2) with a distance of ten shaft diameters or the estimated depth of the drilled shaft excavation, whichever is greater, (3) within a distance of three times the depth of other excavations, (4) within 200 feet of sheet pile installation and extraction operations, (5) for projects with pile driving operations.

dMG submitted a Settlement and Vibration Monitoring Plan (SVMP) which was reviewed and approved by the Department. dMG's approved SVMP did not include settlement or vibration monitoring of the existing I-95 bridges over NW 6<sup>th</sup> Street. dMG contends that since the existing bridges were not specifically shown (noted) in the Contract Documents to be surveyed or monitored, and that the Department approved SVMP did not include surveying or monitoring the existing bridges, dMG was not required to do so.

dMG testified that it had never surveyed or monitored existing Department bridges in all its years in business as a road and bridge builder and that other established Florida bridge contractors had not done so either.

During the drilled shaft operations for all the bridges of the Project, the Department never notified dMG that it was failing to survey and monitor the existing bridges or questioned why survey and monitoring of the existing bridges was not being performed.

The Department's foundation expert testified that in his opinion any vibrations caused by the installation of the drilled shaft casing that would have resulted in settlement of the existing structures would have taken place deep below ground and would not have been noted by vibration monitoring at the existing structure. Thus, the Department acknowledged that even if vibration monitoring had been performed, it would have not been a preventive measure relative to the Department's speculated cause of settlement.

The Department contends dMG did not use correct installation measures to install the drilled shafts by utilizing a vibratory hammer to install the casing for the drilled shafts. However, dMG's Drilled Shaft Installation Plan (DSIP) was approved by the Department and specifically stated that the casings would be installed by "...using vibratory hammer or twisting of casing or a combination of both", "Extract temporary casing using Contractor's crane and Case's vibratory hammer...", "...temporary outer casing will be installed (using a vibratory hammer)..." and permanent casings installed "...(using a vibratory hammer)..."

dMG stated the drilled shaft installation work was performed in accordance with the Department approved DSIP and during the course of the work, the Department never questioned the operation or provided notification that the DSIP was not being adhered to.

The Department stated the settlement was caused by dMG changing the foundation of the new widening pier foundation from piling, which was the foundation of the existing adjacent structure, to drilled shafts. However, the Department approved the design and utilization of drilled shafts for the foundation in lieu of piling. The Department did not state how the drilled shaft design caused the settlement of the existing structure.

The Department stated that through the use of reference documents, dMG was well aware of the conditions of the existing bridge structures. The Department's bi-annual inspection reports of the existing structures prior to July 2020, which have been provided to the DRB, did not record any settlement of Piers 2 and 3, deficiencies of the bearings, loss of contact between the beams and pedestals, rotation of the piers, or significant cracking of the concrete caps. The last bi-annual inspection report, January 16, 2020, which took place 59 days after the completion of the drill shaft installation, noted there was no indication that deterioration, geometric changes or additional dead load had occurred that would warrant a new load rating analysis from the current load rating dated July 31, 2019.

dMG contends the cause of the settlement might be attributed to (1) vibrations from adjacent railroad tracks, or (2) vibrations related to the Caribbean earthquakes of January 28, 2020, or (3) utility installations (borings) by others, or (4) settlement of the existing bridge foundations founded on 22-foot piles driven to length without geotechnical core boring data or supporting test pile records.

Although there are active railroad tracks adjacent to the project, dMG did not provide scientific or engineering evidence to support that that situation was the cause of the settlement of the existing bridge.

The January 28, 2020, magnitude 7.7 earthquake which occurred between Cuba and Jamaica and another magnitude 7.6 earthquake which occurred several hours later west of the Caymans Islands, resulted in buildings swaying in Miami-Dade and Broward Counties. It was noted the earthquakes did occur after the Department's January 16, 2020, biannual bridge inspection, when no settlement was reported, and prior to the observed settlement on July 21, 2020. However, dMG did not provide scientific or engineering evidence to confirm that either of these earthquakes was the cause of the settlement of the existing bridge.

dMG also did not provide evidence of the settlement being caused by utility installations (borings) by others.

Based on the information provided in the parties' position and rebuttal papers and testimony given at the Hearing, the DRB finds the settlement of the 1990's existing bridge structure was not observed prior to July 21, 2020, and the cause of the settlement of the existing bridge has not been established and therefore is unknown. The parties presented speculative theories as to the cause, but none were supported by scientific or engineering evidence. Thus, evidence has not been provided to establish that a direct cause or action of dMG operations caused the settlement of the existing bridge structure.

dMG's position is the settlement of the existing bridge was not the result of its construction operation, was beyond its control, the investigation and correction/repair of the existing bridge is work that is not included in the Contract "scope" of work, and that work was not anticipated by the Department, the EOR, nor dMG. Therefore, the lane closures required for that work were also unanticipated and beyond dMG's control.

### **The DRB's Recommendation:**

Contract Specification Section 8-12.1 states; *"At the discretion of the Engineer, damage recovery/ user cost will not be assessed for failure to open traffic lanes if such cause is beyond the control of the Contractor, i.e., catastrophic events, accidents not related or caused by the Contractor's operations."*

Based on the information provided in the parties' position and rebuttal papers and testimony given at the Hearing, the DRB finds the settlement of intermediate piers of the 1990's portion of the existing southbound I-95 bridge over NW 6<sup>th</sup> Street was an unforeseen catastrophic event for which the cause has not been established to be within the control of dMG. Thus, the DRB recommends the Department not withhold damage recovery/ user costs from the monthly estimate payment for lane closures required for the investigation and correction/repair of the existing southbound I-95 bridge over NW 6th Street.

This DRB recommendation is a unanimous recommendation of the DRB members:

Matthew L. Michalak, Chairman

Ralph Ellis, Jr., P.E., Member

Ron Klein, Member

The DRB sincerely hopes that this recommendation will allow the parties to amicably conclude this dispute and that the views and findings of this DRB herein will assist in that objective.

The DRB wishes to thank both parties for their submissions and presentations and to those who gave oral testimony and answered questions during the hearing. The DRB commends the orderly and professional behavior of the parties during the hearing.

Respectfully Submitted by and for the DRB

Matthew L. Michalak, DRB Chairman