



October 1, 2019

**Extinguish the Torch Meeting
Veterans Expressway (SR 589) Improvements for Bridge Approaches
FIN 442631-1-52-01
Contract E8R64**

Jacobs CEI Team

Ashley Quaid, PE – Senior Project Engineer – Ashley.quaid@jacobs.com
Wendy Wilber – Contract Support Specialist – Wendy.wilber@jacobs.com
Inspectors – Provided by Jacobs, JMT, and RK&K

FTE Staff

Tracie Rose, PE – Construction PM – Tracie.rose@dot.state.fl.us
Jason Christopher, PE – Design PM – Jason.christopher@dot.state.fl.us

Design Firm

AECOM Technical Services, Inc.
7650 West Courtney Campbell Causeway
Tampa, FL 33607
(813) 286-1711

Paul Schmid, PE – Engineer of Record

1. Project Description & Limits

This project consisted of improvements to the Veterans Expressway (SR 589) from south of Memorial Highway (MP 1.043) to north of Gardner Road (MP 6.774). The work included improvements to 35 bridge approach and departure slabs, adjacent roadway pavement, pavement markings, and express lane markers.

2. Contract Details – See Page 3

3. Lessons Learned

- a. Missing MOT & Striping Pay Items Page 4
- b. Duration of Hydrodemolition Page 5
- c. Maintenance of Traffic for Hydrodemolition Operation Page 6
- d. Mechanical Grooving Page 7
- e. Number of Lanes Open For MOT Due to Express Lane Page 8

4. Summary of Issues

- a. Revisions 1 and 2: \$97,924.99 – See Lessons Learned Items B and C above.
- b. Existing bridge header repair: \$55,503.41
- c. Deletion of Mechanical grooving: -\$10,346.42 – See Lesson Learned D above.
- d. Concrete Overruns: \$148,923.72
- e. Asphalt Overruns: \$122,550.68 – Thin pavement resulting in exposed base.

5. Outstanding Work After Final Acceptance – None

Attachments

- 1. Lessons Learned Pages 4-8
- 2. Items That Went Well Page 9
- 3. Claims & NOIs Page 10
- 4. Work Order Log Page 11
- 5. SA Log Page 12
- 6. Time Summary Page 13
- 7. Warranty List Page 14



Turnpike Lesson Learned



Entry Date	Sep 27, 2019
Issue Title	Missing MOT and Striping Pay Items
Project	E8R64 C9Q36 442631-1-52-01 Veterans Expressway Improvements Bridge Approaches
Main Contact:	Ashley Quaid, PE Senior Project Engineer 813-404-7816 ashley.quaid@jacobs.com
Discipline	Design
Roadway Spec	
CSI Spec.	
Design Index	
Key Word(s)	Pay Items

Issue Detail:

Several MOT and striping pay items had to be added to the project including an "Express" pavement message.

Resolution:

The necessary pay items were added to the contract via Supplemental Agreements and/or paid for by Work Orders.

Lesson Learned:

Design should QC plan callouts and review previous as-builts/field conditions to ensure all necessary pay items are included in the Contract prior to letting.



Turnpike Lesson Learned



Entry Date	Sep 30, 2019
Issue Title	Duration of Hydrodemolition
Project	E8R64 C9Q36 442631-1-52-01 Veterans Expressway Improvements Bridge Approaches
Main Contact:	Ashley Quaid, PE Senior Project Engineer 813-404-7816 ashley.quaid@jacobs.com
Discipline	Design
Roadway Spec	DIV II SEC 110 CLEARING CONSTRUCTION SITE
CSI Spec.	
Design Index	
Key Word(s)	Hydrodemolition

Issue Detail:

The plans called for hydrodemolition and concrete replacement in all lanes of an approach slab to occur over a single weekend. Core information used to determine rebar depth was not accurate and rebar depth was greater than anticipated leading to a much longer hydrodemolition duration. The duration of the hydrodemolition made it impossible to complete this work effort in the specified lane closure restrictions while meeting concrete strength requirements prior to opening the lanes to traffic.

Resolution:

The area of work was decreased to a manageable size of a shoulder, single lane, and partial lane. In addition, it became more cost effective and efficient to perform full slab replacement.

Lesson Learned:

FTE should consider full slab replacement on future projects or have provisions to divert traffic and/or leave MOT in place for an extended period of time. For future hydrodemolition, more cores should be taken to accurately gauge rebar depth especially if there are portions of slabs that were built at different times. An additional recommendation is to allow for use of high early concrete.





Turnpike Lesson Learned



Entry Date	Sep 30, 2019
Issue Title	Maintenance of traffic for hydrodemolition operation
Project	E8R64 C9Q36 442631-1-52-01 Veterans Expressway Improvements Bridge Approaches
Main Contact:	Ashley Quaid, PE Senior Project Engineer 813-404-7816 ashley.quaid@jacobs.com
Discipline	Design
Roadway Spec	DIV II SEC 100-105 GENERAL CONSTRUCTION OPERATIONS
CSI Spec.	
Design Index	
Key Word(s)	Maintenance of traffic

Issue Detail:

The plans called for hydrodemolition of an approach slab shoulder and two lanes to occur with live traffic directly adjacent to the hydrodemolition operation. This posed a safety concern for projectiles to hit vehicles and the safety of the workers.

Resolution:

The hydrodemolition work area was decreased in width to provide space for a protection shield and safety of the workers replacing the slab during pouring of concrete. In addition, approval was given to close a third lane in order to pour back concrete.

Lesson Learned:

FTE should specify MOT which takes into account the necessary buffer space (recommended minimum 5') for the hydrodemolition equipment and means and methods for screeding and finishing concrete as called for in the Specifications.

Page 1 of 1





Turnpike Lesson Learned



Entry Date	Oct 19, 2019
Issue Title	Mechanical Grooving
Project	E8R64 C9Q36 442631-1-52-01 Veterans Expressway Improvements Bridge Approaches
Main Contact:	
Discipline	Design
Roadway Spec	DIV II SEC 400-471 STRUCTURES
CSI Spec.	
Design Index	
Key Word(s)	Grooving

Issue Detail:

The plans called for hydrodemolition and concrete replacement in all lanes of an approach slab to occur over a single weekend. In addition, the plans called for a Class 4 finish and grooving to the proposed approach slab concrete. Due to constraints of lane closure restrictions, mechanical grooving could not be performed prior to opening the travel lanes.

Resolution:

A specification change was processed to permit manual tining. Manual tining was performed at the depth called for in the Standard Specifications matching the random spacing of the existing adjacent bridge deck prior to opening to traffic.

Lesson Learned:

A technical special provision should be included in the contract to provide details for grooving.

Page 1 of 1





Turnpike Lesson Learned



Entry Date	Oct 19, 2019
Issue Title	Number of lanes open for MOT due to Express Lane
Project	E8R64 C9Q36 442631-1-52-01 Veterans Expressway Improvements Bridge Approaches
Main Contact:	Ashley Quaid, PE Senior Project Engineer 813-404-7816 ashley.quaid@jacobs.com
Discipline	Design
Roadway Spec	DIV II SEC 100-105 GENERAL CONSTRUCTION OPERATIONS
CSI Spec.	
Design Index	
Key Word(s)	MOT due to Express Lane

Issue Detail:

Per lane closure restrictions, the intent of the plans was to have two lanes open at all times during construction operations. However, the project corridor had an inside express lane. When closures were necessary for the outside lanes, the traveling public experienced delays due to truly only one lane being open if the express lane was not entered/ utilized several miles away from the work zone.

Resolution:

Lesson Learned:

Take extra measures to warn the traveling public to expect delays.

ITEMS THAT WENT WELL

- The plans, specifications, and original contract duration were based on what was believed to be aggressive time frame with the Contractor possibly needing to use multiple crews to complete the work. Through careful planning and scheduling, the Contractor utilized the longer lane closures over the weekend with a 4-day work schedule (Friday-Monday) and was able to finish before expiration of original contract time with only one crew.
- In order to reach the proposed finished grade, the contractor achieved precise dimensions using stringline for finished grade control while paving the approaches and departures.

