EXTINGUISH THE TORCH MEETING

FIN: 411406-1-52-01, 411406-4-52-01 & 411406-1-56-01
Contract No.: E8Q12
Project: SR 91, Florida's Turnpike Widening
Contractor: Lane Construction Corporation
Project Acceptance Date: 06/30/2021
County: Orange & Osceola

SUMMARY REPORT

Project Team

CEI Consultant

Prime: RS&H, Inc.
8256 Exchange Drive
Suite 228
Orlando, FL 23809
Senior Project Engineer: Mark Davidson, P.E.
Project Administrators: Curtis Brown, P.E.
Associate Project Administrator: Josh Becker, P.E.
Contract Support Specialist: Geraldine Rudewicz
Senior Roadway Inspector: Sean Nazari
Senior Bridge Inspector: Mike Sweinhagen
Senior Bridge Inspector: Willie Diaz
Senior ITS Inspector: Emilio Cabrera

Sub: Project Administrator - Vannarith Ky, P.E. (HDR, Inc.)
Senior Roadway Inspector – Randy Stacks (HDR, Inc.)
Senior Roadway Inspector – Rick Gonzalez (HDR, Inc.)
Senior Bridge Inspector – Greg Watson (HDR, Inc.)
Inspector – Kamlesh Suthar (PI)
Inspector – Ivan Tillman (PI)

Florida Turnpike Enterprise

FTE Project Manager: Fernando Gomez, P.E.
FTE Design Project Manager: Snehal Ambare, P.E.

Engineer of Record

Prime: Wantman Group, Inc.
2035 Vista Parkway
West Palm Beach, FL 33411
Project Manager: Keegan Larson, P.E.

Sub: CH2M Hill – TCP, Structures & ITS
Florida Bridge and Transportation, Inc. – Structures
Protean Design Group – Roadway Lighting
AECOM Technical Services, Inc. – Tolls
GAI Consultants, Inc. - Utilities

Contractor

The Lane Construction Corporation
2300 Maitland Center Parkway
Suite 140
Maitland, FL 32751
Contractor Project Manager: Greg Figler (Lane)

Project Scope

The Improvements under this Contract consist of the widening and/or reconstruction of Florida's Turnpike (SR 91) from Osceola Parkway to the Beachline Expressway. The specific limits for this project are the northbound and southbound lanes from M.P. 247.770 to M.P. 255.499. This proposed 8-lane section of SR 91 will consist of four 12-foot general purpose lanes in both the northbound and southbound directions with a 12-foot outside shoulder and a 16-foot inside shoulder. Other improvements associated with this project include the construction of three ramps at the SR 91/SR 417 interchange. These ramps include Ramp A2 (northbound SR 91 to southbound SR 417) which includes the construction of a 1,882 ft long Category II/third level steel box girder bridge structure, Ramp C2 (southbound SR 91 to northbound SR 417) which includes the construction of a 1,452 ft long Category II/third level steel box girder bridge structure, and Ramp D-1 (southbound SR 91 to southbound SR 417). Improvements associated with this project also include the reconstruction and/or widening of the Osceola Parkway and Orlando South Interchange exit/entry ramps, including the replacement of the existing ramp bridge at the Orlando South Interchange. Other proposed bridge improvements include the replacement of the SR 91 bridges over the Central Florida Rail Corridor and over Central Florida Parkway/CSX Railroad Spur, and the replacement of the existing Orange County roadway overpasses at CR 527 (Orange Ave) and Taft-Vineland Road. Other improvements include signing and pavement marking related to the implementation of express lanes, drainage and stormwater management improvements, highway lighting within the interchange limits, upgraded ITS infrastructure, and the addition of a tolling facility.

Lessons Learned

ITEM #1
ISSUE TITLE: Detour Hours – Production

ISSUE: During construction it was anticipated that the plan specified lane closure hours would be utilized for the necessary plan specified detours. This assumption was incorrect and more restrictive detour hours were implemented.

RESOLUTION: The Contractor filed a NOI for loss of productivity and a SA was issued to resolve the NOI.

LESSON LEARNED: When detours are necessary on a project, ensure the allowable detour hours are specified in the bid documents for road and ramp closures.

COST IMPACT: **SA #48 - $288,837.32 and 3 days**

ITEM #2
ISSUE TITLE: Submittals – CEI

ISSUE: During the project, many submittals required review and approval, including the pile installation plan, mass concrete plan, drilled shaft installation plan, etc. These submittals periodically required addendums or modifications resulting in a new submittal. When the Contractor submits an addendum, they submit only the portion that changed and not the entire package. When doing this, inevitably there are pieces of the package scattered around and the document losses its integrity.

RESOLUTION: Addendums and modifications should be submitted as a complete package that includes the original document with changes reflected.

LESSON LEARNED: When receiving an addendum or revision, ensure the contractor provides the original accepted document with mark-ups identifying. Include language in the contract that specifies submittal requirements.

COST IMPACT: N/A

ITEM #3
ISSUE TITLE: Sheet Pile Adjacent to the Roadway – Production

ISSUE: During the extraction of temporary critical sheet piling adjacent to the roadway there was significant settlement and cracking of the rigid and flexible pavement. It was agreed that since the plans require the sheet piling, the Department is responsible for the repair to the roadway. The plans include a note concerning sheet pile deflection but is silent on the repair of adjacent property.

RESOLUTION: Compensated the Contractor to repair the damaged roadway by milling and resurfacing.

LESSON LEARNED: Suggest adding a plan note that states: “While driving and extracting temporary critical sheet piling, the Contractor should anticipate settlement to the adjacent ground. All damage will require correction at the Contractor’s expense and considered incidental to the sheet pile pay item.”

COST IMPACT: At various pier locations $91,140.68 (SA #40 - $24,623.91, SA #67 - $62,272.14 & WO #114.03 - $4,244.63)

ITEM #4
ISSUE TITLE: Memorial Marker – CEI

ISSUE: There were several memorial markers and adopt a highway signs placed throughout the project. During construction, the markers and signs were removed or damaged. After construction, the relatives associated with the markers and sign sponsors requested their reinstatement.

RESOLUTION: Discuss replacement markers and signs with Maintenance and arrange replacement.

LESSON LEARNED: Prior to the start of construction, perform an inventory of memorial markers and signs. Discuss their storage and protection with the Contractor at the pre-construction conference. If the markers and signs need to be relocated, use GPS coordinates for their replacement.

COST IMPACT: Maintenance replaced markers and signs.

ITEM #5

ISSUE TITLE: Quantity of Detours - Production

ISSUE: Several items of work required full roadway and/or ramp closures with detours. The plans provide the detour routes and a general outline of when the detour should be used. The issue arises when the Contractor requests a detour for work associated with the general outline of work provided in the plans but not the specific work item intended. An example is for bridge activities such as overhang installation and removal, SIP, deck pours and girder painting when the detour was meant only for girder erection. The work, in this case overhangs, could be performed with simple lane closures, but it is much safer and more efficient with a full detour.
The question is, are the detours intended for the contractor's convenience at the detriment of the Turnpike and their costumers? Most full closures also required a toll suspension that compounds the issue. In addition, off duty law enforcement manhours were significantly overrun due to excessive use of detours.

RESOLUTION: During construction, detours were planned to accommodate multiple operations to minimize the number of road closures. The coordination efforts were successful in limiting the number of full closures; however, many detours were still used for the contractor's benefit.

LESSON LEARNED: We recommend referencing the specific operations where detours will be allowed and provide a provision for the Contractor to request additional detours/toll suspensions at a cost, like a lane rental specification.

COST IMPACT: The cost FTE absorbed for toll suspensions is unknown. The overrun of Traffic Control Officers is conservatively estimated at over $900,000 over the course of 4.3 years of construction.

ITEM #6

ISSUE TITLE: Lighting Conduit Routing on Steel Structures - Production

IISSUE: A specific plan detail was missing on how the internal girder lighting conduits should be routed to the external power source. Reference RFI 513 & 513A.

RESOLUTION: Conduit was run through the concrete deck and surface mounted to the steel tub girders and concrete columns. While undesirable, special mounting hardware was necessary to attach the conduit to the steel girders and additional painting was necessary.

LESSON LEARNED: Recommend specific details for running internal lighting conduit through steel structures and inside concrete columns.

COST IMPACT: N/A

ITEM #7
ISSUE TITLE: ITS/Maintenance Access - Production

ISSUE: Several of the new ITS poles containing VDS and CCTVs were located on the back side of drainage ponds, steep slopes, and at the right of way line. The new poles were found to be inaccessible by the ITS Maintenance Department.

RESOLUTION: Relocation of several of the poles was necessary and several poles were abandoned. In addition, one location required a new guardrail opening, and another location required additional embankment to flatten the slopes.

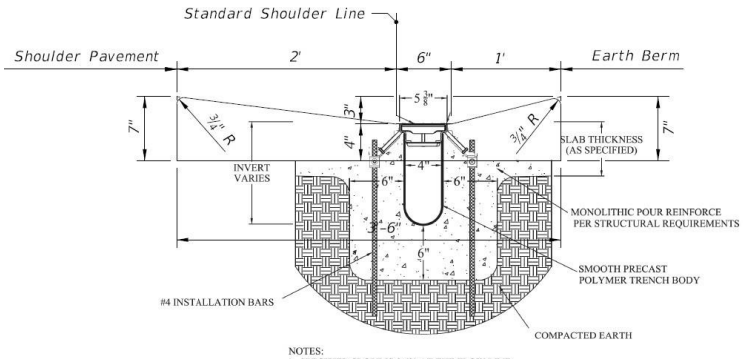
LESSON LEARNED: Recommend that the ITS Maintenance Department review the plan phase submittals for accessibility.

COST IMPACT: $90,388.07

ITEM #8
ISSUE TITLE: Trench Drain within Shoulder Gutter - Production

ISSUE: Plan Sheet 162 references the installation of trench drain along Ramp B2 with shoulder gutter. The plans lacked a detail on how the trench drain and shoulder gutter integrate. In addition, there is no Standard Index that provides guidance.

RESOLUTION: CEI prepared a detail for the construction of shoulder gutter with an integrated trench drain and approved by the EOR.



TYPICAL DTPF4-HDBP TRENCH SECTION

LESSON LEARNED: Recommend the EOR provide a detail of non-standard construction where there is no Standard Index.

COST IMPACT: N/A

ITEM #9
ISSUE TITLE: Rail Flagman – FTE/Production

ISSUE: The project constructed bridges over two separate rail corridors with different owners and required track protection from the agencies. The structures were built in multiple phases that spanned most of the contract time and required flagging throughout the project duration. The scheduling of the flaggers was difficult and costly. This fact, compounded by the inability of the track owners to supply track protection when needed which "hand cuffed" the scheduling process.

RESOLUTION: Since there is no incentive for the contractor to efficiently coordinate their activities that require track protection, the track protection was scheduled very conservatively in order not to delay construction.

LESSON LEARNED: Place the burden for scheduling track protection on the Contractor and provide a maximum number of hours that the Department will reimburse the track owners for protection. If the Contractor requires additional track protection, then it would be at their cost through reimbursements to the Department. Another option is to make the Contractor responsible for providing their own track protection and include the cost in their bid. An additional option is to add a milestone bonus for completion of the proposed new structure over rail corridors.

COST IMPACT: Est. $2.0 Million, could have saved 50% at minimum.

ITEM #10
ISSUE TITLE: New Load Centers– FTE/Production

ISSUE: Several new load centers were installed for ITS, lighting and tolling. The plan intent was for the Contractor to coordinate and pay for the new services with the power companies. The Contractor filed a NOI, contending there was no way for them to add the costs into their bid price for the project.

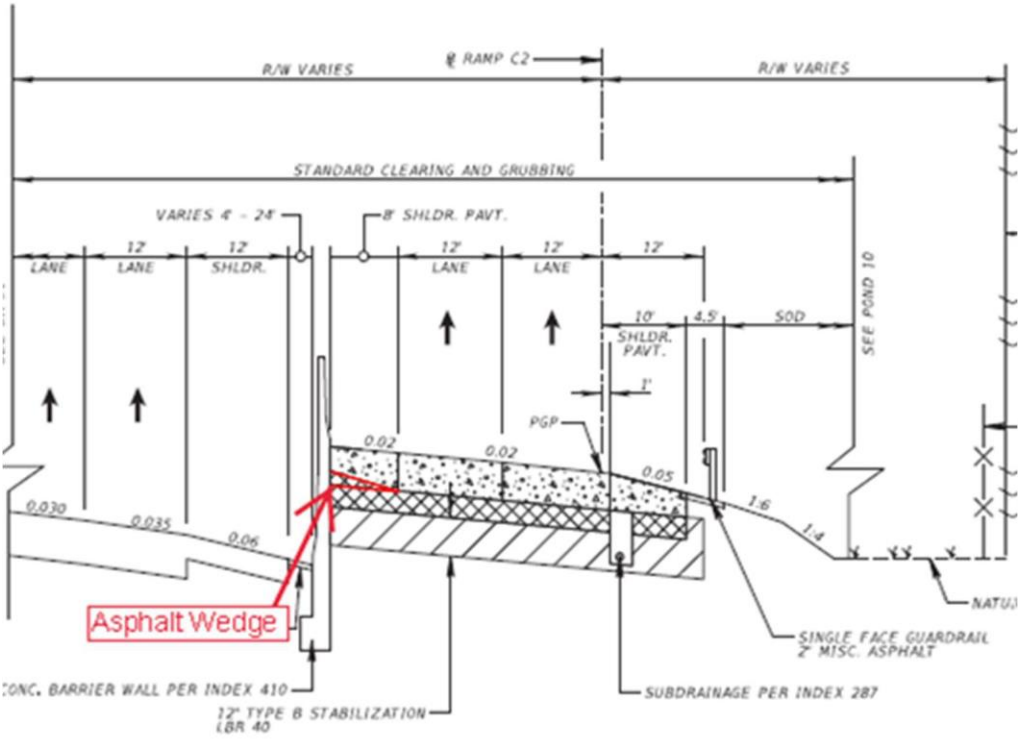
RESOLUTION: We settled the NOI for actual costs associated with providing new power services for ITS, Tolling and Lighting. It was determined that the process of establishing new power and its associated costs was a lengthy process that could not have been contemplated at the time of bid.

LESSON LEARNED: When new power services are required on a project, it is recommended that a "do not bid" pay item is added to the contract for compensating the Contractor for establishing new services. This item would be like a contingency item currently added to construction contracts.

COST IMPACT: $78,805.50, SA #113

ITEM #11
ISSUE TITLE: Concrete Pavement, Variable Depth Shoulders Base - Production

ISSUE: : The plan typical sections for concrete pavement specify placing an Optional Base Group 1 (Type-B 12.5) under Plain Cement Concrete Pavement (9 ½"). The associated concrete shoulders that are 5′ or wider are constructed with a variable depth concrete pavement from 9 ½" to 6". The plans did not specify that the added base under the variable depth should is incidental to the base construction and the contractor requested compensation since the item is paid by the square yard and is a plan quantity item.



TWO LANE RAMP

RAMP C2

STA. 1404+70.00 TO 1410+48.05

NEW CONSTRUCTION

OPTIONAL BASE GROUP 1 (TYPE- B 12.5) WITH PLAIN CEMENT CONCRETE PAVEMENT (9 ½")

NARROW SHOULDER PAVEMENT (5' OR LESS)

OPTIONAL BASE GROUP 1 (TYPE- B 12.5) WITH PLAIN CEMENT CONCRETE PAVEMENT (9 ½")

WIDE SHOULDER PAVEMENT (5' OR WIDER)

OPTIONAL BASE GROUP 1 (TYPE- B 12.5) WITH PLAIN CEMENT CONCRETE PAVEMENT (TAPERED (9 ½" TO 6" MIN.)

RESOLUTION: Compensated the contractor for the wedge area by converting the extra base tonnage to equivalent square yards of base. Noted this area as a plan error and overran the base item. This issue was eventually negotiated at no cost or plan overrun.

LESSON LEARNED: Future contracts that utilize concrete pavement with tapered shoulders should include a note on the typical sections that states the base wedge is incidental to the base item.

COST IMPACT: N/A