

Financial Project No.: 441322-1-52-01
Contract No.: E8R51
County: Lake, Orange, Osceola, Sumter
Project Description: AET Northern Coin Conversion, MP 236-309



Extinguish the Torch Meeting

Summary Report

Project Team

CEI

Senior Project Engineer:	Dan Foss, PE - Eisman & Russo
Project Administrator:	Herb Potter, CCM - Adaptive Consulting Engineers
Contract Support Specialist:	Noemi Alemany - Adaptive Consulting Engineers

Turnpike

Construction Project Manager:	Fernando Gomez, PE
Design Project Manager:	Patrick Muench, PE
GEC Project Manager:	Francisco Cardona, PE

EOR

Prime, Roadway, S&PM:	Webb Jones, PE - Hardesty & Hanover
S&PM:	Ramon Breton, PE - Kimley-Horn and Associates
S&PM:	David Gerber, PE - Wantman Group
Lighting:	Andrew Barthle, PE - Hardesty & Hanover
ITS:	James Sumislaski, PE - Kimley-Horn and Associates
Toll Facilities:	Molly deVivero, PE - Bentley Architects + Engineers

Contractor

Ranger Construction Industries
1200 Elboc Way
Winter Garden, Florida 34787
Project Manager: Robert B. Tanksley Jr.

Project Scope of Work - Description and Limits

This contract eliminated all coin collection from the ramps and mainline along the northern portion of the Turnpike and converted to AET from MP 236 to MP 309. Work consisted of installing a new building and gantry for toll collections at the Leesburg Mainline Toll Plaza and removal of the existing barrier toll facility, renovations to existing ramp facilities, milling and resurfacing, variable depth overbuild, full depth reconstruction, widening, box culvert extension, and highway signing.

The project also included a \$600K No Excuse Bonus Date of 07/1/2020 to have the corridor converted to AET which was not achieved.

Lessons Learned

Issue Title	Issue Detail	Resolution Detail	Lesson Learned
1. Clear Zone Conflict	Plans included an overhead cantilever sign along another state owned roadway that was under construction at the same time. Their roadway plans called for a Type E mountable curb that made our overhead structure foundation a hazard within the clear zone for that roadway.	Given the location, moving the foundation would have been very difficult and costly. The CEI team had long-standing relationships with the FDOT Construction Office and worked with them to transition the Type E curb to Type F curb thereby eliminating the clear zone issue.	Design of features off Turnpike should include coordination and review of all pending or ongoing projects on the non-Turnpike roadway. Since projects move in the Work Program, this review should be revisited as part of any plans update prior to letting.
2. Identified, But Not Addressed Utility Conflict	Plans for an off-Turnpike overhead cantilever sign indicated close proximity to a utility with no utility relocation plan or UWS for that structure. Upon excavation of the foundation, it was determined that there was a utility conflict.	The CEI and signing EOR worked together to eliminate the utility conflict by re-designing the existing guardrail to incorporate nested three-beam allowing the structure to move closer to the roadway and avoid the utility. Work Order #14: \$10,563.64 and 0 Days	More detailed review of close proximity utilities should be included in design. Consider SUE for all drilled shaft sign foundations to provide verified utility locations
3. Differing EORs for Same Scope of Work	The AET project had two different designers for the signing and pavement marking plans. There were differences in required signing for the same toll plaza application, missed overhead lit sign removals, and inconsistencies in sign removals and pavement markings.	The CEI overran quantities for each site to address the items altered between sites and made field adjustments to meet the intent of the plans.	The use of different EORs for the same scope of work should be avoided where possible or should be monitored more closely in the QC process so the final plans are internally consistent.

Issue Title	Issue Detail	Resolution Detail	Lesson Learned
4. Gantry Design Sheets, Direction of Stationing	Plan sheets for the new tolling gantry were in opposition to the project stationing creating an opposing view of Left and Right of BL Survey. This was noted on the sheets based on the direction of north; however, it created a major conflict with the gantry fabricator. The as-builts for the gantry drilled shafts were performed in the direction of stationing and required that one side of the gantry be lengthened slightly based on the foundation location; however, there was confusion as to which side to lengthen because the plan sheets differed in view from the stationing. The fabricator went through numerous shop drawing submittals during this process.	The CEI noted that the shop drawings were reversed from the plans because they followed the as-built foundation survey which followed the stationing. However, the fabricator required multiple additional surveys to confirm there was a discrepancy between the plans and shop drawings. If this had not been caught, the gantry built to the original shop drawings would not have fit the foundation creating enormous issues.	Avoid opposing viewpoints on different plan elements for the same project. However, if there must be opposing views, ensure heightened awareness by providing clearer indications on the plans and bringing it to the attention of the construction team through discussion at the Preconstruction Meeting and Pre-activity Meetings.
5. Missing Detours	Plans did not include detours for several ramp sign operations and mill and resurface operations that required detours to complete the work.	The CEI coordinated with the EOR, Construction PM, and Traffic Operations to obtain detour routes and detour plans. These plan revisions were not required to go through the ERC process which expedited the delivery of the plans and kept the contractor moving.	A thorough review of the work activity at each location accounting for contractor equipment needs and limitations could have identified work area needs and resulting MOT requirements including detours incorporated into the original plans.
6. Utility Coordination, Late Changes in Utility Work	Plans included a transformer within the concrete pad for the toll equipment building for Sumter Electric Co (SECO). During pre-activity discussions it was learned that SECO did not want their transformer that far from the ROW and planned to relocate their facility to the fence line requiring additional efforts and conduit from the contractor.	Because this was discussed early with SECO and the change identified, the CEI worked with the EOR and Facilities to adjust work to minimize cost impacts of the change in location of the SECO transformer. Work Order #12: \$4,509.66 and 0 Days	Early coordination with outside stakeholders is essential to project success. In this case the utility reviewer that agreed to the plans had retired before the project went to construction.

Issue Title	Issue Detail	Resolution Detail	Lesson Learned
7. Off-System Signage	Plans included numerous overhead cantilever structures on Osceola Parkway. During a site review by the CEI it was noted that numerous utility conflicts existed with overhead and underground power, signal conduit, and fiber optic. It was also discovered that one of the planned structures was located on private property.	The CEI and Construction PM worked with Traffic Operations and the EOR to redesign these structures as multi-post signs and allow the CEI to field adjust sign placement to avoid utilities where necessary. This resulted in a \$311,170.00 savings to the Turnpike and eliminated significant liability and costs in likely claims.	Early site reviews by the CEI to determine design feasibility can yield tremendous results in cost savings and claim avoidance.
8. Barrier Wall - To Remain	The contractor was required to leave approximately 5,000 feet of Type K Barrier Wall in place along both sides of the median for future use. The plans did not address any special requirements for the wall to remain – no condition requirements, no class 5 finish, no requirement that it be new wall, etc. This created much debate from the contractor in the closeout process.	The CEI worked proactively with the contractor and wall supplier to make sure only pieces conforming to the temporary wall requirement were left in place.	Since this wall is a semi-permanent feature until removed for a future widening, the project would have benefited from having a specific item for this wall to remain so the contractor could have bid the cost of new wall eliminating controversy and providing a better product.
9. Gantry Column Fabrication – Incorrect Heights	Gantry columns arrived from the fabricator and were 2” shorter than the shop drawing dimensions. Later the stairway was delivered, and it was the correct height as shown in the shop drawings making it 2” higher than the gantry already installed. The dimension concern was discussed with the Turnpike’s consultant for inspection at the fabrication facility who said their contract/role did not include confirming that overall dimensions matched shop drawings.	Tolerances and clearance were such that the shorter gantry columns were usable as-is. However, because the staircase arrived at the correct height it was 2” higher than the gantry requiring significant field adjustments to make the stairway fit the gantry.	Recommend the scope of services for the Turnpike’s consultant at fabrication facilities be reviewed/modified to ensure they are confirming that overall dimensions match shop drawings so any adjustments can be made in the controlled environment rather than field adjustments risking poorer quality and project delays.