

Summary Report

Polk Parkway (SR 570) Painting of Bridges 160240, 160245, and 160246
Financial Project No. 427325-1-52-01
Contract E8M59

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Engineer of Record: Gail Woods, P.E.
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Bridge Typical Section, Class 5 Surface Finish, and Lighting Plans:

Jocelyn M. Haisch-Linn, P.E.
DRMP, Inc.
941 Lake Baldwin Lane
Orlando, FL 32814

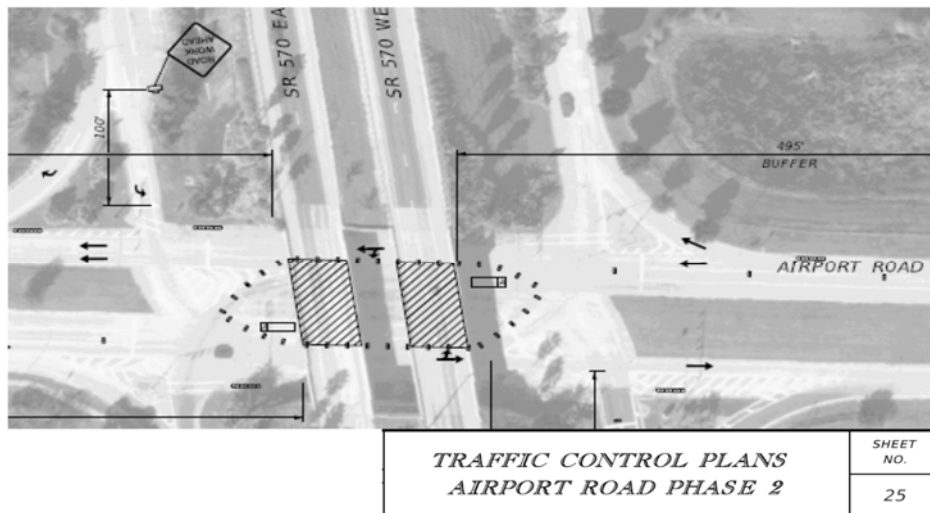
Project Scope of Work

Polk Parkway (SR 570) Bridge Painting at MP 0.08 and at MP 3.035. The Scope of Work consisted of painting bridges 160240 (I-4 EB On-Ramp over Clark Road), 160245 (WB Polk Parkway over Airport Road), and 160246 (EB Polk Parkway over Airport Road). The Scope also included replacement of the under deck lighting at the above referenced bridges.

Lessons Learned

1) Traffic temporarily shifted off of a lane with detection loops

During Phase 2, traffic making a left turn off of Airport Rd onto either the NB or SB on-ramps to the Polk parkway was temporarily shifted onto the through-lanes. Thus, the vehicles seeking to turn did not trigger the detection loops in the dedicated left turn lanes.



Resolution

Coordinated with the City of Lakeland to have the signals set to 'Recall' mode.

Lessons Learned / Recommendations: PLAN NOTE

Include a plan note to have the signals set to Recall mode for the duration of lane closures where traffic loops are made inaccessible.

2) Use of Semi-Gloss Paint

Plan notes call for standard paints 595B-34491 and 595B-35488 on bridge steel beams.. These standards are for flat finish paints. However, standard paints 595B-24491 and 595B-25488 are the lowest sheen polyurethane paints available in an FDOT approved product. These standards are for semi-gloss paints.

Resolution

Changed the language in the Plan Notes to allow for use of the semi-gloss paint.

Lessons Learned / Recommendations: COORDINATION / PLAN NOTE

It is recommended that when the plan notes are being developed, representatives of the approved paint suppliers be consulted to assure that the specified paints and/or coatings are commercially available.

3) Imperfections amplified by clear coating

The Contractor informed us that they had previously worked on projects where there were a large number of imperfections on the beam surfaces. In those cases, applying a clear coat acted to highlight and amplify every imperfection on the surface; often looking worse than it had prior to being re-painted.

Resolution

the problem described above did not occur, as the steel beams on this project were relatively free of surface imperfections.

Recommendations: COORDINATION

Where surfaces have a large number of surface imperfections, call for total removal of the existing paint, down to bare metal. The Contractor indicated that this removes the appearance of surface imperfections from the final product.

A grading scale for surface conditions may be necessary.

4) Protection of elastomeric bearing pads

Turnpike Structures Maintenance personnel noted that the elastomeric bearing pads had been painted along with the girders, and the paint on the pads was exhibiting cracking due to the expansion and contraction of the bridge.



Resolution

The Contractor repainted the bearing pads during this painting cycle to maintain consistency in the color throughout all the bridge elements.

Lessons Learned / Recommendations: PLAN NOTE

It is recommended that a plan note be added to protect the elastomeric bearing pads from being coated, as the coating on the pad will inevitably crack due to expansion and contraction.

5) Seasonal Work by Painting Contractors

The Contract Time on this project was originally scheduled to start in mid-spring. The Contractor informed us that many small, family-owned painting firms take jobs all over the country, wherever they can. The late spring and summer are the only time of the year when they can perform outdoor painting in states subject to freezing temperatures in the fall and winter. Our Contractor postponed starting work on this project until the early fall.

Resolution

Increase the contract flex/acquisition time by 42 days. Although this extension did not extend the start of Contract Time all the way to the fall, it did reduce the amount of time between the start of Contract Time and the start of actual work.

Lessons Learned / Recommendations: COORDINATION

Incorporate more flex time, for painting projects in Central and South Florida (90 - 120 days). Doing so would entice more firms to bid on painting projects, which would result in FTE receiving more competitive bids.

Also, the total Contract Time for painting projects may possibly be reduced if the Contractor knows they can start in the fall or early winter. This is because the actual time spent painting, is typically significantly less than the time spent by the Contractor completing another project, getting submittals approved, or waiting for the end of the rain season. With more flex time, the Contractor will not have to eat up Contract Time on these “non-work” items.

6) Listing of Pay Items for information purposes

This project included the removal and replacement of the under deck lighting for the three bridges. The Contractor had virtually no experience in lighting systems, and several shop drawing submittals for the luminaires were rejected (acrylic refractors submitted, whereas section 992-5.1 requires glass). Without a list of pay items, the Contractor mistakenly assumed that the only requirements for the lighting systems were those given in the “Lighting General Notes” (plan sheet 35).

Resolution

The shop drawing process identified the need for glass refractors.

Lessons Learned / Recommendations: PLAN NOTE

For the Lump Sum Contracts, make a reference in the plan notes to pay items for elements such as lighting and electrical systems. This list of pay items would be for *information purposes only* to direct the Contractor to the Specifications that they will be required to satisfy in order to have their shop drawings approved.

Appendix A - Summary of Contract Changes

| Work Orders | |
|--|---------|
| Work Order 1 - Increase Acquisition Time to 42 Calendar days | \$ 0.00 |
| Work Order 2 – Changed Plan Notes to allow for use of semi-gloss paint | \$ 0.00 |
| Overall change to Original Contract Amount: | \$ 0.00 |

Appendix B - Summary of RFI's

RFI 01 – Request to Waive TSP Monitoring

Submitted 10/10/2013

As per our conversation. TSP monitoring is required is for abrasive blasting operation. (sec 561-10.2.3.2) We are pressure washing and over coating on this project. We are requesting to remove TSP monitoring as per FDOT specification.

Senior Project Engineer's Recommendation to EOR:

While the Specifications call for Total Suspended Particulate (TSP) monitoring to prevent exceeding 1.5 μ g/m³ over a 90 day period, it is Metric's opinion that the TSP monitoring is intended for ABRASIVE BLAST cleaning operations only. On this project, the Contractor (Monoko) will be water jetting to a WJ4 "Light Cleaning" specification. The loose mill scale, rust, and old coating will be contained within the wastewater because the pressures are too low to break down the coating system and create a dust, as it is would with abrasive blast cleaning. With the hand tool cleaning, all of the lead that is contained in the paint (which is minimal and well below EPA allowable maximums) is encapsulated within the loose debris that may come off, but most of the loose debris will have already been removed from the water jetting. For these reasons, **Metric recommends that TSP monitoring be waived for this operation.**

EOR Response

We agree air monitoring is not necessary during pressure washing and hand tool cleaning. However, visible emission requirements must still be strictly adhered to.

RFI 02 – Clarification of Traffic Control Plan notes

Submitted 10/24/2013

Correction or deletion needed. On plan sheets 20 and 25 (traffic control). The plans call for a truck mounted attenuator. These plans are not to scale. If placed in the correct positions the truck mounted attenuator would extend 25ft into the intersections, causing a hazard. Florida 600 series does not require a truck mounted attenuator when traveling at lower speeds and intersection closings (which is what we are doing on Airport Rd).

However there is room for a pilot car or truck with strobe lights. This would provide additional warning and protection. Please advise on what corrective action you would like us to take.

Senior Project Engineer's Response:

Measurements made in the field indicate there is between 50 and 60 feet of roadway in which an attenuator truck could be placed as shown in the approved Traffic Control Plan (TCP) without interfering with either the intersection or the work zone.

Once the attenuator truck is installed as shown on the TCP, if its location does in fact interfere with either the intersection or the work zone, then its position will be adjusted, as directed by the Engineer, to meet actual field conditions. Any field adjustment of traffic control devices will conform to the requirements of the Standard Indexes.

RFI 03 – Clarification on documentation required to be submitted for solvents

Submitted 11/06/2013

Under submittal 4 Monoko was asked for additional documentation "Submit Caulk and Caulk compatibility with Sherwin Williams and solvent"

A letter was given stating that the named caulk was compatible with the paint system. The solvents used are a part of the approved paint system and are on the technical data sheets. Is this what you were looking for when you stated the above? Or are you looking for something else when pertaining to solvents?

EOR's Response:

Since the PDS and MSDS for the caulk have been submitted then the issue is resolved.

The Contractor's contention that a PDS and a MSDS do not need to be submitted for the solvent since the solvent is part of the coating system does not provide valid argument. It is a separate material within the system just as each coat of paint. Also, the coating data sheets allow for different solvent choices for reducing and for cleanup. The Contractor needs to identify the solvents that will be used and submit their respective PDS's and MSDS's.

RFI 04 – Clarification on requirements for luminaire reflector

Submitted 11/22/2013

Shop drawing number 8 was sent back for correction and to be resubmitted. The correction was marked, "Make reflector glass per plans", this was on the spec sheet for the luminaire that Monoko submitted. I cannot find anywhere in plans where it says "reflector to be glass" Only thing I found was the watts and volts to be used to be used. I am requesting Clarification.

EOR's Response:

Please review standard specification section 992-5.1

Appendix C - Summary of Shop Drawings

| No. | Spec Section / Pay Item | Division | Date Submitted | Title | Resolution Date | Days Elapsed |
|-----|-------------------------------------|---|----------------|--|-----------------|--------------|
| 1 | N/A | N/A | 10/22/13 | Submittal Voided | 10/23/13 | 1 |
| 2 | N/A | N/A | 10/22/13 | Submittal Voided | 10/23/13 | 1 |
| 3 | 560 Coating New Structural Steel | RDWY II - Incidental Construction | 10/22/13 | 560 Bridge Paint Color Samples | 11/1/13 | 10 |
| 3.1 | 560 Coating New Structural Steel | RDWY II - Incidental Construction | 11/15/13 | 560 Resolution to Bridge Paint Color Samples | 11/15/13 | 0 |
| 4 | 560 Coating New Structural Steel | RDWY DIV II - Incidental Construction | 10/22/13 | 560 Bridge Structural Coating System | 10/29/13 | 7 |
| 5 | 560 Coating New Structural Steel | RDWY DIV II - Incidental Construction | 10/22/13 | 560 Bridge Painting Containment System SD/Wind Load Analysis Calcs.(S&S)/Waste Management Plan | 11/7/13 | 16 |
| 6 | 560 Coating New Structural Steel | RDWY II - Incidental Construction | 10/22/13 | 560 Pollution Control Plan | 10/28/13 | 6 |
| 7 | 715 Highway Lighting System | RDWY DIV II - Signing, Pavement Marking and Lighting | 11/7/13 | 715 Under Deck Luminaires Product Data | 11/22/13 | 15 |
| 8 | 715 Highway Lighting System | RDWY DIV II - Signing, Pavement Marking and Lighting | 11/12/13 | 715 Luminaires & Structural Support System Shop Dwgs & Calcs for Under Deck Lighting (Signed&Sealed) | 11/22/13 | 10 |
| 8.1 | 715 Highway Lighting System | RDWY DIV II - Signing, Pavement Marking and Lighting | 12/2/13 | 715 Luminaires & Structural Support System Shop Dwgs&Calcs(S&S) & Prod Data for Under Deck Lighting | 12/20/13 | 18 |
| 8.2 | 715 Highway Lighting System | RDWY DIV II - Signing, Pavement Marking and Lighting | 1/23/14 | 715 Luminaires & Structural Support System Shop Dwgs & Calcs for Under Deck Lighting (Signed&Sealed) | 1/29/14 | 6 |