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**IFB NO. Y19-761-RM**

**ISSUED: April 30, 2019**

**INVITATION FOR BIDS**

**FOR**

**BUCK ROAD OVER LITTLE ECON RIVER BRIDGE SITE DEFICIENCIES REPAIRS**

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**PART H  
TECHNICAL SPECIFICATIONS**

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**PART H  
Volume II**

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# TECHNICAL PROVISIONS

FOR

## BUCK ROAD OVER LITTLE ECON RIVER BRIDGE NO. 754005 DEFICIENCY REPAIRS

ORANGE COUNTY, FLORIDA



*PREPARED FOR:*

**ORANGE COUNTY PUBLIC WORKS DEPARTMENT  
ROADS AND DRAINAGE DIVISION  
4200 JOHN YOUNG PARKWAY  
ORLANDO, FLORIDA 32839-9205**

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# APRIL 2019

PART H  
TECHNICAL PROVISIONS

for:

BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA

ACKNOWLEDGMENTS

As always, Inwood has enjoyed the opportunity to serve Orange County on this assignment, and would like to express our appreciation for the continued support of the County Commissioners.

Orange County Board of County Commissioners

- Jerry L. Demings, County Mayor
- Betsy VanderLey, District 1
- Christine Moore, District 2
- Mayra Uribe, District 3
- Maribel Gomez Cordero District 4
- Emily Bonilla, District 5
- Victoria P. Siplin, District 6



CERTIFICATION

The engineering material and data contained within the following Technical Provisions was prepared by Inwood Consulting Engineers for the sole use by the Orange County Roads and Drainage Division.

\_\_\_\_\_, P.E.  
Kevin B. Fischer, P.E.  
Florida Registration No. 60074  
Date:

# TABLE OF CONTENTS - TECHNICAL PROVISIONS

Orange County, Florida

for:

BUCK ROAD OVER LITTLE ECON RIVER

BRIDGE NO. 754005

DEFICIENCY REPAIRS

ORANGE COUNTY, FLORIDA

## GENERAL

A-1	Scope of Work
A-2	Index of Drawings
A-3	Schedule of Prices (a.k.a. BID Form)
A-4	Orange County Technical Provisions

## ORANGE COUNTY TECHNICAL PROVISIONS

✦ Orange County **Technical Provisions (TP's)** pertinent to this contract are listed below ✦

<b>TP No.</b>	<b>Technical Provision Description</b>
101	Mobilization
102	Maintenance of Traffic
901-5	Curb Spall Repair
901-6	Northeast Embankment Topping Repair
901-7	Southeast Embankment Repair

PART H  
TECHNICAL PROVISIONS

for

BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA

SCOPE OF WORK

Orange County existing Bridge No. 754005, Buck Road over Little Econ River, has been identified as requiring repairs to deficiencies that were observed and documented during bridge visual inspections in 2017. The deficiency repair plans and Technical Provisions have addressed repair procedures for each deficiency including the materials required and sequence of repair steps. Temporary Traffic Control details have also been included for the repairs that will require shifting of vehicular traffic as indicated.

The deficiencies to be repaired at this bridge site as part of this contract are as follows:

1. *Replace Missing Pipe Utility Hanger* - The missing pipe utility hanger on the north side of Span 11 needs to be replaced with a new galvanized steel hanger.
2. *Curb Spall Repair* - The curb spall on the north side of the road at the east bent shall be repaired. The exposed rebar shall first be protected by application of an epoxy bonding compound followed by restoration of the curb shape by utilizing a concrete repair mortar.
3. *Northeast Embankment Topping Repair* - The failure in the concrete topping protecting the northeast sloped embankment requires repair. An excavatable flowable fill will be applied through the open crack to stabilize the embankment and fill any underlying voids. After the existing topping surface is prepared a mat of welded wire reinforcement shall be positioned then a layer of concrete repair mortar shall be applied including an expansion joint at the interface with the existing end bent wingwall.
4. *Southeast Embankment Repair* - The failure in the concrete topping protecting the southeast sloped embankment requires repair. Portions of the existing embankment shall be removed by sawcutting to accommodate installation of a new sand-cement riprap retaining wall anchored into the embankment. New concrete slope pavement shall be installed behind the new retaining wall including expansion joints at the perimeter of the slope pavement as indicated.

PART H  
TECHNICAL PROVISIONS

for

BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA

INDEX OF DRAWINGS

(Prepared by Inwood Consulting Engineers)

Sheet	Description
	<b>Buck Road over Little Econ River (Bridge No. 754005) Deficiency Repair Plans</b>
1	Key Sheet
2	Summary of Pay Items
3	Temporary Traffic Control Details
B-1	Plan
B-2	Curb Spall Repair Details
B-3	Northeast Embankment Topping Repair Details
B-4	Southeast Topping Repair Details (1 of 2)
B-5	Southeast Topping Repair Details (2 of 2)
BX1-1 THRU BX1-4	Existing Bridge Plans

PART H  
TECHNICAL PROVISIONS

for

BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA

SCHEDULE OF PRICES (a.k.a. BID FORM)



## SCHEDULE OF PRICES

BRIDGE NO. 754005, BUCK ROAD OVER LITTLE ECON RIVER: DEFICIENCY REPAIRS

Item No.	Pay Item No.	Description	Units	Quantity	Unit Cost	Total
1	101-1	MOBILIZATION (10% OF ALL OTHER ITEMS)	LS	1		
2	102-1	MAINTENANCE OF TRAFFIC	LS	1		
3	460-98-1	PIPE HANGER, CARBON	EA	1		
4	901-5	CURB SPALL REPAIR	LS	1		
5	901-6	NORTHEAST EMBANKMENT TOPPING REPAIR	LS	1		
6	901-7	SOUTHEAST EMBANKMENT REPAIR	LS	1		
<b>TOTAL PRICE (BASE BID):</b>						

PART H  
TECHNICAL PROVISIONS

for

BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA

**TECHNICAL PROVISIONS**

## PART H

### TECHNICAL PROVISIONS

for

**BUCK ROAD OVER LITTLE ECON RIVER  
BRIDGE NO. 754005  
DEFICIENCY REPAIRS  
ORANGE COUNTY, FLORIDA**

“**Standard Specifications**” shall mean the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, dated January 2019, and supplements thereto, and Orange County Road Construction Specifications. The project shall be constructed in accordance with these specifications and of the Florida Department of Transportation (FDOT) “**Standard Specifications for Road and Bridge Construction**” (dated January 2019), and “**Supplemental Specifications for Road and Bridge Construction**” (dated January 2019), hereafter referred to as the “Standard Specifications,” and “**Orange County Road Construction Specifications**” (latest edition). “**Additional Specifications**” (if any) may also be provided herein by the Engineer in an effort to more clearly define the Work under this Contract.

When reference is made to a Division, Section, or Article, it shall mean a Division, Section, or Article of said “**Standard Specification**”. Wherever the Standard Specifications indicate a mailing address for a State office or Agency, the office or agency and the address shown area hereby deleted and replaced by the following:

Orange County Roads and Drainage	4200 South John Young Parkway
Division – Public Works Department	Orlando, Florida 32839

Where duplication of specifications occur, the Florida Department of Transportation (FDOT) “Standard Specifications for Road and Bridge Construction (latest edition)” shall apply unless reference is made to a material or equipment specification as required by Orange County. Where discrepancies occur between the “Standard Specifications”, “Supplemental Specifications”, “Orange County Specifications” and the Engineer’s “Additional Specifications”, provisions of Section 5-2 of the Standard Specifications for Road and Bridge Construction (latest edition) shall apply.

Each reference to Basis of Payment in said “Standard Specifications” is superseded by the conditions contained in the Technical Provisions and all other conditions related to Basis of Payment contained in these specifications.

The work specified in this contract represents the type of services to be accomplished. Work under this contract is limited to specified areas as listed in the scope of work. Areas have been inventoried and calculated as to quantities. Any discrepancies or disagreements concerning quantities and limits of work shall be immediately reported in writing (shall reflect the new measurements taken by the Contractor and the contract measurements) to the County representative. Discrepancies or disagreements will be mutually resolved prior to beginning work in any area in question. The County will make the final determination on any unresolved matters.

The plans/drawings depict the general layout for work to be performed under this contract. The Contractor shall layout the work from benchmarks, control points and construction base lines established at the site, or supplied by County. All work of every description shall be laid out and checked by the Contractor who shall be held solely responsible for its correctness. A detailed quote including quantities and materials needed for requested projects (linear foot underdrain, PVC pipe, square yards of concrete (sidewalk, driveways, curb), asphalt, etc.), conflicts (utilities, structures, trees, mailboxes, etc.) and recommendations shall be submitted to the County's Representative for review no later than five (5) days after request from the County. The Contractor shall be responsible for direction of flow, high points, etc. The County's Representative must review submitted quote and authorize the Contractor to proceed with the layout of the project. The detailed layout for the project shall be submitted for review prior to starting operations and no later than three (3) days after notification, unless otherwise authorized by the County.

All measurement for payment shall be based on the completed and accepted work performed in strict accordance with drawings and specifications. All work completed under this contract shall be measured by the Contractor in the presence of the County's Representative. The quantities listed in the summary of Pay Items are estimated.

Unless otherwise specified herein, the Contractor shall be responsible for any testing and densities required as per Orange County and FDOT specifications at no cost to the County.



**TECHNICAL PROVISIONS**

**TP 101 - Mobilization**

**MOBILIZATION**

Mobilization shall include all items detailed in Article 101 of the Standard Specifications, the Special Provisions and on the plans, except as directed by the Engineer.

Preservation of Property Corners including all items detailed in Section 7-11 of the Standard Specifications shall be included in the contract price for mobilization.

**Basis of Payment**

The work and incidental costs covered under Mobilization will be paid for at the contract lump sum price and will be paid in partial payments in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percent of the Lump Sum Price for the Items*
5	25
10	50
25	75
50	100

\*Partial payments as detailed above will be limited to 5% of the original Contract amount for the roadway pay items. Any amount of mobilization in excess of 5% of the roadway pay items will be paid upon completion of all work.

No special compensation will be made to the Contractor to defray costs of any of the work or delays by making surveys and measurements, tests or inspections, but such costs shall be considered as having been included in the price stipulated for the several items of work to be done under this contract. The Contractor shall bear all costs of relocating and/or re-establishing damaged or lost monuments/control structures. Any claims for extras based on substrata or ground water table conditions shall not be allowed.

Payment shall be made under:

Pay Item:

101-1	Mobilization (5% of all other items)	Lump Sum
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Pay Item Note No. 101-1

Includes all applicable survey costs and costs necessary for a video survey. The work site/area shall be videoed (CD) prior to work commencement and after work is completed. This video will be taken by the Contractor, and shall be submitted on CD to the County with the final pay request. Includes all efforts necessary to construct and dismantle a temporary staging area as needed to accommodate typical wet season rainfall events occurring during construction.



**TECHNICAL PROVISIONS**

**TP 102 – Maintenance of Traffic**

**MAINTENANCE OF TRAFFIC**

All Maintenance of Traffic work shall conform to the requirements of Section 102 of the Standard Specifications, Index 600 of the FDOT Design Standards, the plans, and/or as herein modified, except as directed by the Engineer.

The road shall be kept open to two-way traffic on a paved surface during construction except when full closures are allowed by the plans or by the Engineer. The Contractor shall not be permitted to isolate residences or places of business. Access shall be provided to all residences and all places of business whenever construction interferes with the existing means of access.

The Contractor shall furnish, erect and maintain all necessary traffic control devices, including flagmen, pilot cars and variable message boards, in accordance with the *Manual on Uniform Traffic Control Devices for Streets and Highways*, published by the U.S. Department of Transportation, Federal Highway Administration. The Contractor shall provide and maintain in a safe condition the entire project limits included, but not limited to pre existing conditions, driving lanes, temporary approaches, crossings, and intersections with trails, roads, streets, business parking lots, residences, garages and completed work. Contractor shall coordinate with Orange County to notify residents of this closure. The Contractor shall take all necessary precautions for the protection of the work and the safety of the public in accordance with Section 102.

The Contractor shall present his signed and sealed Maintenance of Traffic Plan to the Engineer at the preconstruction conference, and shall be fully and solely responsible for the adequacy of the Maintenance of Traffic plan regardless of the source. The plan shall be signed and sealed by a professional engineer licensed in the State of Florida.

The Contractor shall be responsible for installation of signs for all business along the project corridor. Signs should be manufactured and installed in accordance with FDOT design standards. No special compensation will be made to the contractor to defray costs of any of the work or delays for complying with the requirements of installing business signs, but such costs shall be considered as having been included in the price stipulated for the Maintenance of Traffic pay item.

A safe pedestrian way shall be maintained at all times during construction.

**Basis of Payment**

All materials, work and incidental costs related to Maintenance of Traffic will be paid for at the contract lump sum price. All material, labor and equipment necessary for the construction and maintenance of the entire project limits included, but not limited to pre-existing conditions, driving lanes, temporary approaches, crossings, intersections with trails, roads, streets, business

**PART H**



**TECHNICAL PROVISIONS**

**TP 102 – Maintenance of Traffic**

parking lots, residences, garages, temporary driving lanes, side streets, driveway connections, temporary fencing, and completed work, as may be directed by the Engineer shall be included in the contract price.

Payment will be made under:

**Pay Item:**

102-1	Maintenance of Traffic	Lump Sum
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Pay Item Note No. 102-1

Includes all necessary traffic control devices including flagmen, pilot cars and variable message boards, in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways (latest edition). Contractor shall secure construction site (i.e. temporary pedestrian safety fencing, barricades, signs, etc.) in order to prevent pedestrians from accessing work areas.

**PART H**



**TECHNICAL PROVISIONS**

**TP 901-5 – Curb Spall Repair**

**CURB SPALL REPAIR**

Work specified in this Section consists of the repair of the curb spall. Work shall conform to the requirements of Sections 926 and 930 of the Standard Specifications and with the notes and details shown in the plans.

**Materials**

This work includes all incidental items and work associated with the repair of the curb spall including surface preparation, application of the epoxy bonding compound and reconstruction of the curb surfaces with the curb repair concrete as indicated in the plans.

**Basis of Payment**

Curb Spall Repair will be paid for at the contract lump sum price, completed and accepted.

Payment shall be made under:

**Pay Item:**

901-5	Curb Spall Repair	Lump Sum
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**PART H**



**TECHNICAL PROVISIONS**

**TP 901-6 – Northeast Embankment Topping Repair**

**NORTHEAST EMBANKMENT TOPPING REPAIR**

Work specified in this Section consists of repairing the Northeast Embankment Topping. Work shall conform to the requirements of Sections 930 and 931 of the Standard Specifications and with the notes and details shown in the plans.

**Materials**

This work includes all incidental item and work associated with the repair of the Northeast Embankment including placement of flowable fill for filling the crack and void beneath the existing concrete topping, surface preparation, welded wire reinforcement and placement of the topping repair concrete, surface finishing and installation of the hot poured sealer as indicated in the plans.

**Basis of Payment**

Northeast Embankment Topping Repair will be paid for at the contract unit price, completed and accepted.

Payment shall be made under:

Pay Item:

901-6	Northeast Embankment Topping Repair	Cubic Yard
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**PART H**



**TECHNICAL PROVISIONS**

**TP 901-7 – Southeast Embankment Repair**

**SOUTHEAST EMBANKMENT REPAIR**

Work specified in this Section consists of repairing the Southeast Embankment with Slope Protection and construction of a Sand-Cement Riprap Retaining Wall. Work shall conform to the requirements of Sections 524, 530, 931, 932 and 985 of the Standard Specifications and with the notes and details shown in the plans.

**Materials**

This work includes all incidental item and work associated with the repair of the Southeast Embankment including removal of the existing topping, grading, concrete toe walls, installation of the filter fabric and hot poured sealer for the slope protection. This work also includes construction of the sand-cement riprap retaining wall including site preparations, embedded reinforcing and filter fabric as indicated in the plans.

**Basis of Payment**

Southeast Embankment Repair will be paid for at the contract unit price, completed and accepted.

Payment shall be made under:

Pay Item:

901-7	Southeast Embankment Repair	Lump Sum
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