

DISPUTE REVIEW BOARD RECOMMENDATION

November 23, 1999

Mr. Karl Trewick, P.E.
Project Resident Engineer
HNTB
887 Lake Myrtle Road
Auburndale, Florida 33823

Mr. Shane Cox
Project Manager
Hubbard Construction Company
2545 Lake Myrtle Drive
Auburndale, Florida 33823

Polk Parkway Section 7
State Project No. 97160-3312
WPI No. 1157812
Contract No. 20002
Turnpike District
Issue # 2

Dear Sirs:

The Florida Department of Transportation (Department) and Hubbard Construction Company (Hubbard) requested a hearing concerning the No. 4/0 Conductor for the High Mast Lighting. Summaries of the Department's and Hubbard's positions were forwarded to the Disputes Review Board (DRB) and a hearing was held on November 8, 1999.

ISSUE: Payment for No. 4/0 Conductor for the High Mast Lighting

The question before the DRB is the method of payment for the installation of the grounding array required for the High Mast Lighting. This array consists of a series of grounding rods tied together and connected to the pole base plate by a 4/0 Conductor (bare copper wire) as shown on Index No. 17502, Sheet 3 of 3 in the Department's Roadway and Traffic Design Standards, January 1994.

History of the Dispute

On March 17, 1999, Hubbard's lighting subcontractor, United Signs & Signals, Inc. (United), wrote Hubbard that they had discovered that the bid item associated with the No. 4/0 Conductor for the High Mast Lighting had been omitted from the plans. United contended that the normal bid item for the 4/0 Conductor was Bid Item 715-1-128 and indicated that they would continue with the installation of the grounding cable while a supplemental agreement adding this bid item was completed. United submitted a price and presented a copy of a recent Pasco County project that contained this bid item. Hubbard forwarded the request to the Department and was informed by HNTB in a March 19, 1999 letter that the Standard Specifications for Road and Bridge Construction, 1991, "...Section 620-10-3 for Grounding states that the contract unit price per lineal foot of electrode furnished shall include the cost of grounding conductors." After a series of letters and additional information was exchanged between the parties, a hearing before the DRB was requested by Hubbard's subcontractor United.

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Contractor's Position

Hubbard and their subcontractor United maintain that there is no pay item in the plans for the 4/0 Conductor. They argue that on other projects which include High Mast Lighting a unit price item No. 715-1-128 has been included to pay for the grounding conductor on a lineal foot basis. United also points out that the Department and the Department's designer HDR Engineering, Inc. (HDR) do not agree on where the Conductor should be paid. The Department's position is that the 4/0 grounding conductor should be included in pay item 620-1-1 Grounding Electrode, HDR's position is that it should be included in pay item 715-91-120 Light Pole Complete High Mast Furnish & Install. Hubbard and their subcontractor United do not agree with either the Department's or HDR's position on payment.

Department's Position

The Department does not agree with Hubbard and United that the Department forgot to include a pay item for No. 4/0 bare grounding conductor used in the grounding array for the High Mast Lighting Poles. It is the Department's position that this grounding connector is part of the pay item 620-1-1 Grounding Electrode (Furnish and Install).

First the Department begins with the plans and Technical Special Provisions. There is no applicable note shown on the plans or stated in the Technical Special Provisions as to how payment is to be made. Therefore, the Department will follow the method stated in the Standard Specification for Road and Bridge Construction for payment.

The Contract contained the following pay items for High Mast Lighting.

1.) 455-88-5 Drilled Shaft (48" Dia.). 2.) 455-111 Core (Shaft Excavation). 3.) 455-122-5 Unclassified Shaft Excavation (48" Dia.). 4.) Unclassified Extra Depth Excavation (48" Dia.). 5.) 620-1-1 Grounding Electrode. 6.) 715-1-112 Conductor (No. 8 insulated). 7.) 715-1-113 Conductor (No. 6 insulated). 8.) 715-1-114 Conductor (No. 4 insulated). 9.) 715-2-115 Conduit (PVC-SHC.40-2")(F&I)(underground). 10.) 715-2-116 Conduit (PVC-SHC.40-3")(F&I)(underground). 11.) 715-2-215 Conduit (PVC-SHC.40-2")(F&I) (under pavement). 12.) 715-2-235 Conduit (Rigid Galvanized Steel-2")(F&I) (under pavement). 13.) 715-2-238 Conduit (Rigid Galvanized Steel-6")(F&I)(under pavement). 14.) 715-2-322 Conduit (I M C Galvanized-1") (F&I) (Surface Mount). 15.) 715-2-435 Conduit (Rigid Galvanized Steel-2")(F&I)(Jacked). 16.) 715-2-438 Conduit (Rigid Galvanized Steel-6")(F&I)(Jacked). 17.) 715-7-11 Load Center (secondary voltage). 18.) 714-14-11 Pull Box (Roadside)(F&I). 19.) 715-14-14 Pull Box (surface mount). 20.) 715-91-120 Lighting Pole Complete High Mast (F&I)(120').

A review of Section 715-11 Grounding, in the Standard Specification only indicate that the Grounding of the light poles must be in strict accordance with the National Electric Code, local ordinances, applicable codes, and the requirements of the local utility company. There is no pay item for grounding conductors under the Highway Lighting system. All roadway lighting and traffic signals utilize the same pay item 620-1-1 Grounding Conductor. It is therefore the Department's position, that the specification is applicable to both, as it is used to pay for the grounding conductors for Traffic signals as well as Roadway Lighting.

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In the Roadway and Traffic Design Standards, index 17502, page 3 of 3, there is a detail for the grounding system required for High Mast Lighting. This detail shows 6 ground rods installed in an array spaced a minimum of 10 ft. apart, connected by a No. 4/0 bare copper wire. It is the Department's position that this wire is included in the cost of the grounding electrode as stated in the standard specification 620-4 Ground Rod Array, and 620-10.2 Furnish and Install.

A further argument that was raised by the Department during the hearing was that each system was expected to work and that the Contractor should have realized at the time of bid that the 4/0 Conductor did not have a unit price item and therefore the cost of furnishing and installing the conductor should have been included in the price for Conductors or in the price for the light poles. It was noted by the Department's representatives that on projects without a bid item for the 4/0 Conductors the price for poles was considerably higher than the price of poles on projects with a unit price for the Conductors.

The listing of pay items in the Basis of Estimates Manual is a menu from which the Engineer chooses which items for payment to include in the contract.

The Engineer of Record (HDR) stated that the 4/0 Conductor should be paid for under 715-91-120 Light Pole Complete High Mast (F&I).

The Department makes the further argument that even if pay item 715-1-128 was omitted from the plans and specifications that the payment should be barred under Section 5-4, Errors or Omissions in Plans or Specifications which states:

The Contractor shall take no advantage of any apparent error or omission which he might discover in the plans or specifications but shall forthwith notify the Engineer of such discovery, who will then make such corrections and interpretations as he deems necessary for reflecting the actual spirit and intent of the plans and specifications.

DRB Findings

All parties agree that ground rods have historically been paid for under the same pay item 620-1-1, but that the pay item is included in each separate group of pay items, i.e. pay item 620-1-1 under traffic signals pays for ground rods for traffic signals, when included in the pay group for overhead signs it pays for ground rods included with overhead signs, etc. All parties agree that there is a pay item, No. 715-1-128 Conductors Bare 4/0, in the FDOT Basis of Estimates Manual. A review of the FDOT pay item average unit cost report also contains an average unit cost for the pay item 715-1-128.

Standard Specification TRAFFIC CONTROL DEVICES, SECTION 620 GROUNDING states in part:

620-1 Scope.

This Section specifies general installation requirements for grounding traffic signal installations, the measurement and payment for work performed in providing grounding for traffic signal installations. ... This includes the grounding of span wires, poles, controllers and detector cabinets, and other elements of the installation. Additional requirements for grounding of specific elements are contained in the Sections covering such elements.

Grounding for any element of a traffic signal installation shall be accomplished by installing either a ground rod assembly or a ground rod array. A ground rod assembly shall consist of one or

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more ground rod electrodes, coupled together, and driven into the earth at a single point. A ground rod array shall consist of two or more ground rod assemblies spaced at least six feet apart and bonded together by a No. 8 AWG or larger copper wire.

There shall be a properly installed and connected ground rod assembly or array for each pole, electric power service, and controller or detector cabinet. The location of the ground rod assembly or array shall minimize the length of grounding conductor.

...

620-2 Requirements for Grounding

The grounding for each pole installed as a part of a **traffic signal installation** shall have 20 feet of ground rod electrode as an assembly or in an array.

The grounding for each electric power service installed as part of a **traffic signal installation** shall have a minimum of 20 feet of ground rod electrode as an assembly or in an array. ...

The grounding of each controller or detector cabinet installation shall have 50 feet of ground rod electrode as an assembly or in an array.

The grounding for a pole mounted controller or detector cabinet shall meet the **grounding requirements for cabinet installations**.

The grounding of a pole and a pole mounted cabinet upon which an electrical power service is installed shall have a minimum of 50 feet of ground rod electrode as an assembly or in an array...

The grounding of a pole upon which electrical power service is installed shall have a minimum of 20 feet of ground rod electrode as an assembly or in an array...

The grounding of a pole or a pole mounted cabinet shall have a minimum of 50 feet of electrodes as an assembly or in an array.

All base mounted cabinets shall be grounded separate from any pole....

...

620-10 Method of Measurement.

620-10.1 General: Measurement for payment shall vary according to the following work tasks.

620-10.2 Furnish & Install: The contract unit price per lineal foot of electrode furnished and installed shall include the ground rod electrodes, coupling devices, grounding conductors and connecting devices as required in the **Department's Evaluation Criteria for Traffic Control Devices (ECTCD) CRT-620**, plus all labor, equipment, and miscellaneous materials necessary for a complete and accepted installation.

...

620-11 Basis of Payment.

The contract unit price per lineal foot of grounding electrode in place or furnished shall be full compensation for all **work specified in this Section**.

Payment shall be made under:

Item 620-1-A – Grounding Electrode

- A. Operation to be Performed.
 1. Furnish and Install.
 2. Furnish
 3. Install

An examination of Section 620-1 through 620-11 indicates that this section of the Standard Specifications **deals exclusively with Traffic Control Devices** and does not indicate that *it is in any way* intended to be used for High Mast Lighting.

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Standard Specification TRAFFIC CONTROL, SECTION 715, HIGHWAY LIGHTING SYSTEM, addresses the work in question as follows:

715-1 Description

The work specified in this Section consists of the installation of a highway lighting system in accordance with the details shown in the plans. The system shall include specifically the light poles, bases, luminaries, ballasts, pull boxes, cable, conduit, substations, expansion joints, protective devices, transformers and control devices; all as specified or required for the complete facility.

...

715-11 Grounding

Grounding shall be in strict accordance with the National Electrical Code, local ordinances, applicable codes, and the requirements of the local utility company. ...

The grounding terminal of each lighting arrester, the tank of the transformer, and the neutral shall be solidly interconnected and connected to ground. One or more approved rods, 5/8 inch in diameter and eight feet long, shall be used as ground rod. Connectors at the ground rod shall be as shown in the plans or as approved by the Engineer.

...

715-16 Basis of Payment

The work under this Section shall be paid for under the items listed below and shall be full compensation for all work and materials required.

Such price shall be full compensation for all materials, equipment and work specified, including installation tests; all completed and accepted.

When the Contractor cuts through pavement, sidewalk, curb, sod, etc., and the replacement of such is not specifically included under other items in the contract, the lump sum price for Install New Conductors, Conduit and Pull Boxes shall include all the costs of restoring cut pavement, etc., to its original condition.

Payment shall be made under:

Item No. 715-1 – Install New Conductors, Conduit and pull Boxes – lump sum.

...

Item No. 715-9 - High Mast Lighting Unit - each

The DRB finds that absent any plan/specification note to the contrary specification Section 620-1-1 is not the appropriate payment item. The specifications clearly intended that item to apply to Traffic signals. Specification Section 715 is the appropriate section of the specifications for the 4/0 Conductor, and contains a unit price item 715-1-128 Conductors Bare 4/0.

United admits that they knew of the missing 4/0 Conductor at the time of bid and did not include the cost of the 4/0 Conductor because there was no pay item for the Conductor. An examination of United's bid estimate indicates that no cost was included in their bid for the 4/0 Conductor. When United was notified to begin work they notified Hubbard that the bid item for #4/0 bare copper cable had been omitted from the plans. United calculated a cost to be included in the supplemental agreement that they anticipated would be prepared for the addition of bid item 715-1-128.

DRB Recommendation

Due to the ambiguity created by the inclusion of item 620-1-1 in the Contract pay items and inconsistent application of the specifications relating to payment for the 4/0 wire, the Board

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finds entitlement for the Contractor and recommends that the Department negotiate an equitable adjustment with the Contractor for the 4/0 Conductor (bare copper wire).

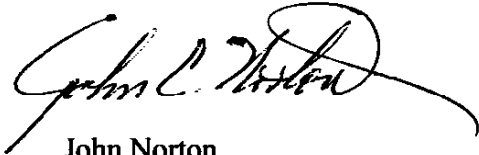
The Board appreciates the cooperation by all parties involved and the information provided to make this recommendation. Please remember that failure to respond to the DRB and the other party concerning your acceptance or rejection of the DRB recommendation within 15 days will be considered acceptance of the recommendation.

I certify that I participated in all of the meetings of the DRB regarding the Dispute indicated above and concur with the findings and recommendations.

Respectfully Submitted,

Disputes Review Board
John Norton, DRB Chairman
John H. Duke, DRB Member
Keith Richardson, DRB Member

SIGNED FOR AND WITH THE CONCURRENCE OF ALL MEMBERS:

A handwritten signature in black ink, appearing to read "John C. Norton", with a large, sweeping flourish extending from the end of the signature.

John Norton
DRB Chairman

CC: Charles B. Wegman, P.E., FDOT
David Dempsey, Hubbard Construction Company



Florida Department of Transportation

JEB BUSH
GOVERNOR

THOMAS F. BARRY, JR.
SECRETARY

Turnpike Construction
Polk Parkway Project
3520 U.S. Highway 98 South
Lakeland, Florida 33803

December 21, 1999

Mr. J.C. Norton, P.E., Chairman
Disputes Review Board
National Construction Association
5700 Memorial Highway, Suite 105
Tampa, Florida 33615

RE: Polk Parkway, S.R. 570 / Section 7
State Project No: 97160-3312
FIN: 201311-1-52-01
WPI No.: 1157812
Contract No.: 20002

**SUBJECT: Department's Response to the DRB's Findings and Recommendations,
Regarding the "4/0 Bare Conductor Wire Dispute" Dated November 23,
1999, (Received 24-Nov-99)**

Dear Mr. Norton:

The Department hereby acknowledges and affirms this agency's continuing commitment to alternative dispute resolution processes, particularly, the established Dispute Resolution Board (DRB) process currently utilized on this and many other agency projects. Because of this commitment, the Department remains reluctant to take formal exception to recommendations made by a DRB on this or any other agency project.

The Department however, after careful review and considerable deliberation of the DRB's November 23, 1999 recommendation, has determined that it is in its best interests, as well as that of the general public, to notify the DRB that the Department respectfully rejects the DRB's recommendation on the above-referenced matter. At this time, the Department reserves all of its rights to contest not only the claim made by Hubbard, on behalf of United Signs & Signals, regarding the issue of the "4/0 Bare Conductor Wire Dispute", but to also contest all issues, arguments and recommendations raised in relation to this recent DRB hearing without limitation.

Notwithstanding the fact that the Contract Terms preclude additional compensation for such occurrences, Florida State Statute prohibits the Department from providing any additional payment towards an item of work that is already clearly provided for as part of the Contract Scope of Work. Legal Council has since advised the Department that a supplemental agreement in this instance would be illegal. Especially, since the subcontractor admitted to having knowledge of the conductor Scope of Work, failed to notify the Department prior to bid, failed to properly protest the bid, and thereby willingly committed a unilateral bidding error, for which the law provides no relief. Regardless of which Payment Item includes the cost of the subject "4/0 Bare Conductor Wire", the Scope of Work was clearly and unambiguously provided for within the subject Contract. It is for these reasons, as well as others, that the Department cannot and will not accept the DRB recommendations regarding this matter.

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Mr. J.C. Norton, P.E., DRB Chairman
December 21, 1999
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In closing, on behalf of the Department, please be assured that we remain committed to the DRB process on this project and very much appreciate the role that the DRB and its members have and will continue to play on this project.

Sincerely,



cc:

Charles B. Wegman, P.E.
Turnpike Construction District Engineer

CBW/smc/

Cc: John Duke – DRB Member
Keith Richardson – DRB Member
Bruce Seiler – Turnpike Director of Operations
Jack Leonard – Turnpike Legal Council
Neal Penny – Turnpike Const. Project Manager
Karl Trewick – CEI Resident Engineer
Shane Cox – Hubbard Project Manager
James Gilliland – United Signs & Signals Vice President
Scott Clements – Senior Claims Engineer