

DISPUTE REVIEW BOARD RECOMMENDATION

October 16, 2008

E-Mailed October 16, 2008

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RE: SR 23 (Brannan Field / Chaffee Road) (103rd Street to I-10)
FIN No.: 209659-5-52-01 & 213258-2-52-01
Contract No: T2196
County: Duval

Issue No. 1: Sandbag Payment Quantification

Dear Sirs:

The Owner, Florida Department of Transportation (Department) and Contractor, Superior Construction Co., Inc. (Superior) requested a hearing to determine **entitlement** of Superior to **compensation based one cubic foot per sandbag** on the above referenced project. Should entitlement be established, the Dispute Review Board (Board) was not to decide the quantum of such entitlement at this time, as the parties would attempt to negotiate the value of entitlement.

Pertinent issues, correspondence and other information relating to the Department's and the Contractor's positions were forwarded to this Board for review and discussion at the hearing that was held on September 30th 2008.

CONTRACTOR'S POSITION:

DRB Position Paper – Method of Final Measurement for Pay Item 104-5 SANDBAGGING

DESCRIPTION OF THE DISPUTED ISSUE

On this Project, the FDOT's method of measurement to determine the final Pay Quantity for Item 104-5, SANDBAGGING, is based on measuring the dimensions of a single sand bag, calculating the volume, and multiplying that volume by the number of sand bags placed on the Project.

Superior Construction Co., Inc. requests that the DRB review the Department's method of measurement to determine if this method meets the intent of the Contract Documents.

SEQUENCE OF EVENTS

On June 13, 2008, Superior Construction Co., Inc (SCC) wrote an e-mail to JEAces/K&S requesting a meeting to discuss quantity of Pay Item 104-5, SANDBAGGING that had been paid to that date. SCC records showed a shortage of 359.573 CY of SANDBAGGING. (Exhibit No. 1)¹

¹ See original position papers for exhibits.

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In an e-mail dated June 18, 2008, (Exhibit No. 2), JEAces/K&S stated that the quantity paid was based on the number of sandbags placed at that time, according to their records, multiplied by a factor of .014 CY (0.378 CF). JEAces/K&S's factor of .014 CY (0.378 CF)/sand bag was derived from measuring one sand bag, early on in the project, by a JEAces/K&S inspector and SCC's Contract Coordinator. (Exhibit No. 3) SCC disagreed with the Department's method, and stated the correct multiplying factor should be 1 CF/sand bag. SCC's factor of 1 CF/sand bag, was derived from SCC's interpretation of the FDOT's Basis of Estimate Manual, at the time of bid. (Exhibit No. 4)

SCC requested a DRB Review Board hearing on this dispute, as both parties have exhausted all available options to resolve this matter. Although this issue may seem trivial in context, SCC has been negatively impacted from the Department's interpretation of Method of Measurement for Pay Item 104-5, SANDBAGGING.

PRESENTATION OF RELEVANT CONTRACT PROVISIONS

The following documents, or portions thereof, are provided to facilitate the DRB's review of this dispute.

- Basis of Estimates Manual – Section 104- 5- SANDBAGGING, page 29
- Financial Project 209659-5-5201, etc – Supplemental Specification 104-9 Method of Measurement
- Financial Project 209659-5-5201, etc. – Supplemental Specification 530-4.1 Sand-Cement
- FDOT Preparation and Documentation Manual – Chapters 6, pages 6-7, 6-30, 6-31, 6-32, and 6-33
- Financial Project 209659-5-5201 – Computation Book for Pay Item 104- 5, SANDBAGGING, page 18
- Financial Project 213258-1-5201 – Computation Book for Pay Item 104-5, SANDBAGGING, page 25

PRESENTATION OF THE FACTS

At the time of bid, SCC used a factor of 1 CF/sandbag to determine the costs associated with Pay Item 104-5, SANDBAGGING. The FDOT Basis of Estimates Manual, Pay Item 104-5, Details, state this Pay Item is used to control erosion and siltation, using bags 12"x24"x6". These bags calculate to be 1 cf. Pay Item 104-5 is a cy Pay Item. It will take 27ea, 1 CF sand bags to make one CY.

Specification 104-9 (Exhibit No. 5) references Specification 530-4.1 for Method of Measurement. Specification 530-4 is for Sand-Cement Rip-Rap. (Exhibit No. 6)

The FDOT Preparation and Documentation Manual Chapter 6, as referenced in the Basis of Estimates Manual, details Field Records required by FDOT personnel for documentation of quantities for Sand-Cement Rip-Rap. SCC has not seen JEAces/K&S documentation for the SANDBAGGING quantities. (Exhibit No. 7)

SCC's interpretation of the Basis of Estimates Manual is validated by the Project Computation Books. The Computation Books for Financial Project 209659-5201, etc., use a factor of 1 CF/sand bag. (Exhibit No. 8)

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It is SCC's position that the Contract Documents are contradictory as to the correct Method of Measurement for Pay Item 104-5, SANDBAGGING:

- Specification 104-9 SANDBAGGING states that measurement shall be in accordance with 530-4.1.
- Specification 530-4.1 states that sand for sand-cement shall be measured by either/or:
 - Proportioned by volume using an approved measuring device
 - Proportioned by weight and mathematically converted to a volumetric measure
- The FDOT Basis of Estimates Manual details the use of a 1 CF bag.
- The Project Computation Book utilizes Bag Count multiplied by a factor of 1 CF/bag.
- FDOT's Preparation and Documentation Manual, details extensive Field Records for Documenting Sand-cement.

SCC requests the DRB to determine that the acceptable Method of Measurement for Pay Item 104-5, SANDBAGGING, is to count the number of sand bags placed, and multiply by a factor of 1 CF/bag, as justified by the Project Computation Books.

DEPARTMENT'S POSITION:

Superior Construction Company, Inc. (Superior) is requesting a recommendation for entitlement to compensation for one (1) cubic foot (CF) for each sandbag placed on the project.

The Department will demonstrate that Superior has been compensated in accordance with the terms of the Contract. Therefore, Superior is not entitled to any additional compensation for this issue.

BACKGROUND

Superior submitted a bid unit price of \$200.00/CY for Pay Item No. 104-5, Sandbagging.

Construction on the project began on January 15, 2007. Early in the project, representatives from Superior and the CEI team measured a typical, filled sandbag for payment purposes. The dimensions were 18" x 12" x 3" (L x W x H) which correlates to 0.375 cubic feet or 0.014 cubic yards (Exhibit No. 1).

A year and a half later Superior questioned the method being used by the Department to pay for the sandbags. This issue was discussed at the June 25, 2008 Partnering Workshop and at the July 8, 2008 Construction Coordination Meeting.

Additionally, correspondence was transmitted between Superior and the project CEI team discussing this issue (Exhibit No. 2). This correspondence documents the Department's method to utilize the actual in-place measurement of the sandbags and Superior's position that the sandbags are 24" x 12" x 6" as detailed in the Basis of Estimates and the project's computation books. Superior also notes that they expect to be paid one (1) CF per bag.

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As of the August 2008 Pay Estimate, the Department had paid for a total of 10,347 sandbags at the previously determined volume of 0.014 CY for each sandbag for a total compensation of \$28,971.60 (Exhibit No. 3).

Utilizing Superior's proposed method of payment would result in a total of \$76,644.44 (10,347 sandbags @ 1 CF per bag divided by 27 CF/CY times \$200.00 per CY).

This represents a difference of \$47,672.84.

APPLICABLE CONTRACT PROVISIONS

Applicable Contract Provisions are provided in Exhibit No. 4 and contain the following:

1. Supplemental Specification Section 2-3.2 states, in part, "For those items constructed within authorized plan limits or dimensions, **use the quantities shown in the plans and in the proposal form as the basis of the bid. The Department will also use these quantities for final payment as limited by the provisions for the individual items. For those items having variable final pay quantities that are dependent on actual field conditions, use and measurement, the quantities shown in the plans and in the proposal form are approximate** and provide only a basis for calculating the bid upon which the Department will award the Contract ... The Department may increase, decrease, or omit the estimated quantities of work to be done or materials to be furnished." (emphasis added)
2. Standard Specification Section 9-1.3.1, Final Calculation, states, "When measuring items to be paid for on the basis of **area** of finished work, where the pay quantity is designated to be determined by calculation, the Engineer will use lengths and widths in the calculations based on the station to station dimensions shown in the plans; the station to station dimensions actually constructed within the limits designated by the Engineer; or the final dimensions measured along the surface of the completed work within the neat lines shown in the plans or designated by the Engineer. The Engineer will use the method or combination of methods of measurement that reflect, with reasonable accuracy, the actual surface area of the finished work as the Engineer determines." (emphasis added)
3. Supplemental Specification Section 9-2.1, Items Included in Payment, states, in part, "Accept the compensation as provided in the Contract as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract ... For any item of work contained in the proposal, except as might be specifically provided otherwise in the basis of payment clause for the item, **include in the Contract unit price (or lump sum price) for the pay items or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.**" (emphasis added)

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4. *Standard Specification Section 104-6.4.5, Sandbagging, states, "Furnish and place sandbags in configurations to control erosion and siltation."*
5. *Supplemental Specification Section 104-9, Method of Measurement, states, in part, "When separate items for temporary erosion control features are included in the Contract, **the quantities to be paid for will be: ... (3) the volume, in cubic yards [cubic meters], of Sandbagging, measured in accordance with 530-4.1; ...**" (emphasis added)*
6. *Supplemental Specification Section 530-4.1 states, "**The quantity to be paid for will be the volume, in cubic yards [cubic meters], of sand actually used in the sand cement mixture and grout, satisfactorily placed and accepted. If sand cement is proportioned by volume, the sand will be measured loose in an approved measure prior to mixing with cement. If sand is proportioned by weight, approved scales will be used for this purpose and the volume will be calculated using a standard conversion factor for sand of 85 lbs./ft³ [1,360 kg/m³]. No adjustment of batch weights to allow for varying moisture content of the sand will be made. For toe walls, the quantity to be paid for will include only the volume of sand cement in sacks or concrete placed within the neat lines shown in the plans for toe walls.**" (emphasis added)*

RELEVANT DRB RECOMMENDATION

Exhibit No. 5 contains the June 27, 2005 recommendation issued by the DRB on the SR 56/I-75 Interchange project in Pasco County. While this recommendation is for thirteen "Global Claim Issues" on the referenced project, the Department would direct the Board's attention to Issue No. 1 – Riprap Bag Quantities.

The Contractor's Position Statement (Exhibit No. 5, Page Nos. 2 and 3) basically requests entitlement for additional quantities of riprap for three different issues:

- 1) *The Contractor requested entitlement for riprap in excess of the quantity measured by the Department. The Contractor acknowledged that the Department had measured riprap placed at various installations. However, the Contractor submitted supplier's invoices showing the number of bags that had been ordered, converted this information to a volume, and requested payment for this theoretical volume.*
- 2) *The Contractor requested entitlement for riprap for a swale that was constructed twice. The Contractor alleged that the swale was incorrectly located outside of the project right-of-way as a result of direction by the CEI's field staff.*

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- 3) *The Contractor requested entitlement for riprap for bags that had been ordered for “additional work” that was subsequently deleted. Again the Contractor relied on invoices showing the number of bags that had been ordered and requested payment for a theoretical volume.*

The Department’s Position Statement (Exhibit No. 5, Page Nos. 13 and 14) offered the following discussion for these three issues:

- 1) *The Department noted that Contractor’s request was for riprap for temporary installations that had been removed prior to issuance of the Contractor’s request. The Contractor had been provided with the records indicating the measurements on which the Department relied in generating their pay estimates and did not contest the payments until after the temporary installations had been removed. Therefore, it was not possible to re-measure the riprap placed at these installations.*

*The Department also challenged the Contractor’s use of supplier’s invoices to calculate a theoretical volume for payment of a field measured pay item and referenced Special Provision Section 530-4.1 which stated, “The volume of Riprap (Sand-Cement) to be paid for under this Section shall be the volume in cubic yards of sand actually used in the sand-cement mixture and grout, **satisfactorily placed and accepted.**” (emphasis added)*

- 2) *The Department contested the Contractor’s assertion that the swale was constructed off of the right-of-way due to direction provided by the CEI and noted there was no written record of same.*
- 3) *The Department acknowledged that direction had been given to install sand-cement riprap in a location not shown in the original plans; however, the Department demonstrated that this direction was rescinded prior to the Contractor ordering the additional bags that were not used.*

In their unanimous recommendation (Exhibit No. 5, Page No. 35) the project’s DRB found that the Contractor was not entitled to any additional quantity for the riprap pay item and referenced the following Contract Provision:

*Section 530-4 Method of Measurement. Sub-Section 530-4.1 (In part) – Sand-Cement or Concrete Blocks: “The quantities to be paid for under this Section shall be the volume in cubic yards of concrete blocks used, or of sand actually used in the sand-cement mixture and grout, **satisfactorily placed and accepted.**”*

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The Department has provided the above DRB recommendation to demonstrate that a previous DRB has determined that a Contractor is only eligible for payment in accordance with Section 530-4.1 for material actually placed on the project and is not eligible for payment based on a theoretical volume.

COMMERCIALY AVAILABLE SANDBAGS

Superior has requested payment at the rate of one (1) CF per bag based on a theoretical conversion of a 24" x 12" x 6" sandbag. The Department notes that the filled dimension of an in-place sandbag was measured as 18" x 12" x 3" for an actual volume of 0.375 CF.

In Exhibit No. 6 the Department provides product data sheets from four suppliers of sandbags showing the length and width dimensions for the sandbags they provide. Please note that only two-dimensional measurements (length and width) are provided. Obviously, once the sandbag is filled, the length and width dimensions would decrease as the material required to provide height to the sandbag comes from the length and width dimensions.

There are 13 different sizes of sandbags offered by these four suppliers and the dimensions range from 8" x 12" to 24" x 40". The sandbags offered by just these four suppliers show that one sandbag can be up to ten times larger – or smaller – than another. This significant variance supports the need for the Department to determine the actual volume of material used for this field-measured pay item.

DETERMINATION OF VOLUME BY WEIGHT

Supplemental Specification Section 530-4.1 states, in part, "... If sand is proportioned by weight, approved scales will be used for this purpose and the volume will be calculated using a standard conversion factor for sand of 85 lbs./ft³ [1,360 kg/m³]. No adjustment of batch weights to allow for varying moisture content of the sand will be made ..."

Superior has requested payment at the rate of one (1) CF per bag based on a theoretical conversion of their 24" x 12" x 6" sandbag. Using the standard conversion factor in the above Contract Provision, Superior's "proposed" bag would weigh 85 lbs.

The Department has based its payment for sand bags on the BFC project on a sandbag that was measured as 18" x 12" x 3" which equates to a volume of 0.375 CF. Using the standard conversion factor, this results in a bag weight of 31.9 lbs.

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Exhibit No. 7 shows the weights for 18 sandbags randomly selected from the BFC project. The weights for these sand bags range from 25.45 lbs to 56.50 lbs; resulting in an average weight of 39.7 pounds.

Superior's "proposed" 85 lb. bag is 114% heavier than this average while the Department's bag weight is within 20% of this value. Even the heaviest bag found in the random selection – 56.50 lbs – is closer to the Department's bag weight than Superior's "proposed" bag weight.

DISCUSSION

At the time of this submittal, the Department has not received Superior's Position Statement. However, based on previous discussions concerning this issue, the Department's understands that Superior's request for compensation for one (1) cubic foot (CF) for each sandbag placed on the project is based on the following points of discussion:

- 1. Payment for Pay Item No. 104-5, Sandbagging should be made at a quantity of one (1) CF for each sandbag in accordance with the per bag volume used by the Engineer of Record in the project's computation book;*
- 2. Specification Section 530, Riprap, is not applicable to sandbags;*
- 3. If the Department elects to use field measurements for the sandbags, then the Department would have to perform LAT/DAT measurements of each and every run of sandbags placed on the project; and,*
- 4. Superior based their per CY bid unit price on the labor, materials, and equipment required to furnish and install 27 sandbags.*

Each of these points of discussion has been repeated below (in italics) and is followed by the Department's positions for each:

Issue No. 1 - Payment for Pay Item No. 104-5, Sandbagging should be made at a quantity of one (1) CF for each sandbag in accordance with the per bag volume used by the Engineer of Record in the project's computation book.

The Department notes that the computation book (Exhibit No. 8) was not part of the bidding documents and; therefore, should not have been used by Superior as a basis on which to establish their bid.

The Engineer of Record estimated the quantity for Pay Item No. 104-5, Sandbagging, in accordance with the Department's Basis of Estimates Manual (Exhibit No. 9). This

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document instructs the Designer to estimate the quantity using 12" x 24" x 6" bags. These dimensions correlate to a one (1) CF quantity for each bag.

The Department notes that the same Basis of Estimates Manual that instructs the designer to use 1 CF bags in calculating the estimated quantity also notes that Pay Item No. 104-5, Sandbagging, does not have a per each unit of measure and is not a plan quantity pay item.

*Since Pay Item No. 104-5, Sandbagging, is not a plan quantity pay item, the volume used - and paid for - is to be determined by field measurement. As identified in Supplemental Specification Section 104-9, the pay quantity for this pay item is to be measured in accordance with 530-4.1 which states, in part, **"The quantity to be paid for will be the volume, in cubic yards [cubic meters], of sand actually used ..."** (emphasis added).*

Superior has documented that the sandbags used on the project are 24" x 12" x 6". The Department notes that Supplemental Specification Section 530-3.1.2 (Exhibit No. 4) states that while filling the bags the Contractor is to "keep at least the top 6 inches [150 mm] of the sacks unfilled to allow for proper tying or folding and to ensure against breaking of the sack during placing."

Deducting the "top 6 inches" from Superior's 24" long sandbags results in the 18" length measured by the Department. This results in an immediate 25% reduction in the actual in-place volume of a filled sandbag versus the theoretical volume using the overall dimensions of the unfilled sandbag.

Issue No. 2 - Specification Section 530, Riprap, is not applicable to sandbags.

*Supplemental Specification Section 530 pertains to riprap and at face value may not appear to be an appropriate Specification to reference for field measurement criteria for sandbags. However, sand cement riprap is placed in sacks similar to sandbags and; therefore, Section 530 contains a relevant Method of Measurement clause. Subsection 530-4.1 calls for the **actual** volume used to be determined and provides mechanisms to do so by either determining the volume of sand or by weighing the material and using the identified standard conversion factor of 85 pcf.*

Regardless of the argument of whether Section 530 is – or is not – the best reference to determine the actual volume for the sandbag pay item, it is indisputable that it is the method identified within the terms of the Contract to be used.

Issue No. 3 - If the Department elects to use field measurements for the sandbags, then the Department would have to perform LAT/DAT measurements of each and every run of sandbags placed on the project.

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*The Department disagrees with this point and refers to Standard Specification Section 9-1.3.1, Final Calculation, which notes that such measurements should be used when “measuring items to be paid for on the basis of **area** of finished work ...” (emphasis added). The pay quantity for Pay Item No. 104-5, Sandbagging, is based on a cubic yard volume measurement and not an area measurement such as square yards. Therefore, the Contract does not require the Department to perform LAT/DAT measurements for this pay item.*

Issue No. 4 - Superior based their per CY bid unit price on the labor, materials, and equipment required to furnish and install 27 sandbags.

Regardless of what methodology Superior employed in generating their bid unit price, the Department notes that the Contract required Superior to provide a bid unit price for Pay Item No. 104-5, Sandbagging, that would provide sufficient reimbursement for furnishing and installing one (1) CY of sandbags. Specifically, Supplemental Specification Section 2-3.2 instructs the bidders to “use the quantities shown in the plans and in the proposal form as the basis of the bid.”

Furthermore, Supplemental Specification Section 9-2.1, instructs the bidders to “include in the Contract unit price (or lump sum price) for the pay items or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.”

CONCLUSION

The Department has demonstrated that the Contract identifies Pay Item No. 104-5, Sandbagging, as a field measured item and that measurement of same has been performed in accordance with the terms of the Contract.

Therefore, the Department requests that the DRB find that Superior is not entitled to additional compensation for this issue.

CONTRACTOR’S’S REBUTTAL:

Superior Construction Co.’s Rebuttal of Department’s Position Statement for Payment of SANDBAGGING Issue

Superior Construction Co., Inc. has reviewed the Department’s Position Statement for the SANDBAGGING Method of Measurement for Pay issue, and offers the following rebuttal.

1. *“A year and a half later Superior questioned the method being used by the Department to pay for sandbags.”*

Superior is not aware there is a time limit for questioning Monthly Pay Estimate quantities. Superior’s e-mail of June 13, 2008 requests a meeting to discuss quantity paid to date.

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2. *“As of the August 2008 Pay Estimate, the Department had paid for a total of 10,347 sandbags at the previously determined volume of 0.014 CY for each sandbag for a total compensation of \$28,971.60.”
“This represents a difference of \$47,672.84.”*

As of June 2008, Superior has purchased a total of 21,056 sand bags for an anticipated compensation of \$156,000.00. This represents a difference of \$127,000.00. Superior recognizes that all sand bags purchased may not meet entitlement for pay, under Pay Item 104-5 SANDBAGGING. Some of the sandbags may be entitled to compensation under different Pay Items. Once we have resolved the dispute for the correct measurement of pay for these devices, Superior will be more than willing to review the total count of sand bags placed, with the Department.

3. *“There are 13 different sizes of sandbags offered...”*

The Department’s Basis of Estimates Manual, 104-5- SANDBAGGING, states **“Use 12”x24”x6” bags”**. The bags purchased by Superior, for this project, are 12”x24”x6”.

4. *“Supplemental Section 530-3.1.2 (Exhibit No, 4) states that”*

Supplemental Section 530-3.1.2 is not referenced by Specification 104-5.

5. *“Therefore, the Contract does not require the Department to perform LAT/DAT measurements for this pay item.”*

Section 6 of the Department’s Preparation and Documentation Manual, as provided with Superior’s Position Papers, clearly shows documentation required for SANDBAGGING final pay quantity. In addition, Chapter 7 of the Department’s Preparation and Documentation Manual states that final quantity Volumetric measurements be (a) Plan Quantity or (b) Measured using Cross Sections with end area and volume computations, also known as LAT/DAT. (Exhibit 1)

6. *“Regardless of what methodology Superior employed in generating their bid unit price,”*

To generate a bid unit price for this, and all other items, Superior uses all information provided to them in the Contract Documents. If there is not enough information included, Superior searches other reference material in order to make an informed responsible proposal. Including the Department’s Basis of Estimates Manual and information provided with other Contracts, such as Computation Books, etc.

CONCLUSION

This unit price includes the cost of labor, equipment, and materials to produce and place sandbags. The costs for the labor, equipment, and the bag are the same whether the bag holds 1 CF of sand or .33 CF. There are no Contract documents that indicate that each slope drain location requires a certain CY of sand to function as designed. There are also no Contract Documents that show each slope drain location would require a certain number of sand bags to function as designed. This bid item includes costs to construct sand bag flumes at slope drain locations. To determine unit price, **Superior used the only reference they had, the Basis of Estimates Manual, which states that this item will be paid for as a CY item using 1 CF bags. Superior concludes that if the amount of sand were critical to the function of the slope drain, it would be quantified in the Contract Documents.**

DEPARTMENT’S REBUTTAL:

The Department has received Superior Construction Company, Inc.’s (Superior’s) Position Statement for the referenced DRB Hearing and offers the following rebuttal. Superior’s comments from the Position Statement are transcribed below (in italics) and are followed by the Department’s response.

1. *“On June 13, 2008 Superior Construction Co., Inc. (SCC) wrote an e-mail to JEAces/K&S requesting a meeting to discuss quantity of Pay Item 104-5,*

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SANDBAGGING that had been paid to that date. SCC records showed a shortage of 359.573 CY of SANDBAGGING.”

As noted in the Department’s Position Statement, early in the project, representatives from Superior and the CEI team measured a typical, filled sandbag for payment purposes. Exhibit No. 3 of the Department’s Position Statement shows that sandbags were initially paid via Pay Estimate No. 4 on April 15, 2007 - 425 days before Superior submits the referenced e-mail.

Superior’s June 13, 2008 e-mail preceded Estimate No. 18 by two days. Therefore, the quantity “paid to that date” is 6,628 bags @ 0.014 CY/bag = 92.792 CY as shown for Estimate No. 17 on May 8, 2008 (Exhibit No. 3 of the Department’s Position Statement).

Superior refers to the 359.573 CY as a “shortage”. Therefore, one must assume that as of Estimate No. 17 on May 8, 2008, Superior believes that they were due a total of:

*359.573 CY (Superior’s referenced “shortage”)
+ 92.792 CY (total paid as of Estimate No. 17)
452.365 CY*

Using the 0.014 CY per bag measured volume of a typical, filled sandbag (Exhibit No. 1 of the Department’s Position Statement), the 452.365 CY volume represents 32,312 sandbags which is 25,684 or 387% more sandbags than the 6,628 that had been placed on the project “to that date”.

Even if Superior’s “proposed” bag volume of 1 CF or 0.037 CY per bag was accurate, this 452.365 CY volume represents 12,226 sandbags which is nearly twice as many sandbags (5,598 more) than were placed on the project “to that date”.

2. “SCC’s factor of 1 CF/sand bag, was derived from SCC’s interpretation of the FDOT’s Basis of Estimates Manual, at the time of bid.”

Superior appears to have based their bid on a non-Contract Document, the Basis of Estimates Manual.

*As shown in Exhibit R-1 “the Basis of Estimates Manual sets forth the Department’s standard method of **documenting design quantities**, as well as*

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selection criteria, for construction pay items for Florida Department of Transportation (FDOT) projects.” (emphasis added)

The Basis of Estimates Manual is published on FDOT’s website. The webpage where the Basis of Estimates Manual is located notes the following:

*“The Basis of Estimates (BOE) presents the Department’s standard method of documenting design quantities for construction pay items. It also presents the standard method of calculating quantities (standard basis of estimate) for many pay items that require special methods of measurement. **Since this is not a contract document**, it must be used in conjunction with the plans, standards and specifications.” (emphasis added) (Exhibit R-1)*

Instead of incorrectly basing their bid on information contained in the Basis of Estimates Manual, Superior should have relied upon the Contract Documents which called for bidders to submit a unit price to provide one (1) CY of sandbags regardless of the number of bags needed to generate a volume of one (1) CY.

*This position is supported by Supplemental Specification Section 2-3.2 which instructs the bidders to **“use the quantities shown in the plans and in the proposal form as the basis of the bid.”** This is further supported by Supplemental Specification Section 9-2.1, which instructs the bidders to **“include in the Contract unit price (or lump sum price) for the pay items or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.”** (emphasis added) (Exhibit No. 4 of the Department’s Position Statement).*

3. *“At the time of bid, SCC used a factor of 1 CF/sandbag to determine the costs associated with Pay Item 104-5, SANDBAGGING.”*

The Department is not privy to the size of bags on which Superior based their bid. However, the Department has demonstrated that Superior’s “proposed” 24” x 12” x 6” bag can not provide a full CF of volume if any length is used to either fold or tie the bag.

As identified in Exhibit 6 of the Department’s Position Statement, there is a significant amount of variance in the sizes of commercially available sandbags. This variance supports the need for the Department to determine the actual volume of material used for this field-measured pay item.

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The only “factor” that Superior should have used “to determine the costs associated with Pay Item 104-5, SANDBAGGING” is the costs necessary to provide a full CY of volume – regardless of how many bags it took.

*This position is supported by Supplemental Specification Section 9-2.1 which instructs the bidders to “**include in the Contract unit price (or lump sum price) for the pay items or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.**” (emphasis added) (Exhibit No. 4 of the Department’s Position Statement)*

4. “The FDOT Preparation and Documentation Manual Chapter 6, as referenced in the Basis of Estimates Manual, details Field Records required by FDOT personnel for documentation of quantities for Sand-Cement Rip-Rap. SCC has not seen JEAces/K&S documentation for the SANDBAGGING quantities.”

Superior Exhibit No. 7-2 contains a Miscellaneous Tabulation Form (Form No. 700-050-56) which the Basis of Estimates Manual indicates should be used to track sandbagging quantities (Exhibit No. 9 of the Department’s Position Statement). This form provides a space for the “Bag Ct”, “Bag Wt” (the example uses volume instead of weight), and the resulting “Net” (volume) to be recorded on a daily basis.

JEAces/K&S has not used Form No. 700-050-56. Instead JEAces/K&S has maintained field books - which are also site source records - that allow the same information to be documented for Pay Item No. 104-5 as that required by Form No. 700-050-56. In addition, the field books allow for the location the sandbags were placed on the project to be documented.

Exhibit R-2 contains pages from field books utilized by the Department to document the number of sandbags that have been placed on the project and the volume subsequently paid for Pay Item No. 104-5. The sandbag count is converted to a volumetric measurement using the 0.014 CY per bag conversion based on the measured dimensions of a typical, filled sandbag (Exhibit No. 1 of the Department’s Position Statement).

The Basis of Estimates Manual for Pay Item No. 104-5, Sandbagging (Exhibit No. 9 of the Department’s Position Statement) notes that Construction is to “record final quantity on the tabulation sheet (plans) or computation form (comp book).” The field books are used as a basis to track the pay quantity for Pay Item No. 104-5 for the monthly progress estimates. The final pay quantity will be summarized in the “Construction Final” columns of the computation book sheets in accordance with the requirements of the Basis of Estimates Manual.

DISPUTE REVIEW BOARD RECOMMENDATION

Exhibit R-2 also contains some of the submittals received from Superior in which they have documented the number of sandbags placed at various locations throughout the project. These counts are verified by the Department and match those shown in the field books.

5. "SCC's interpretation of the Basis of Estimates Manual is validated by the Project Computation Books."

As previously noted, Supplemental Specification Section 2-3.2 instructs the bidders to "use the quantities shown in the plans and in the proposal form as the basis of the bid." The referenced statement from Superior's Position Statement indicates that Superior incorrectly assumed that the Computation Book - rather than actual measurements - would be relied upon to determine the final pay quantity of this field-measured pay item.

When the Computation Books were transmitted to Superior – several months after the project was bid on September 27, 2006 – the transmittals included a Notice which was acknowledged by Superior. The Notice stated, "The above [computation books] are being provided at the undersigned's [Superior's] request as part of the Department's public records (Florida Statutes, 119) and are not intended nor should they be considered or relied upon as contract documents, or as modifying or changing the contract documents, terms, plans or specifications of any contract entered into by the Department, or as part of any bid documents, including proposal forms, specifications, and/or plans packages unless same have been specifically incorporated by the terms of a particular contract, proposal, or bid package." (Exhibit No. 8 of the Department's Position Statement).

*Chapter 5 of the FDOT Preparation and Documentation Manual discusses Computation Books and Section 5.2 of this document (Exhibit No. R-3) states, "The Computation Book provides a method of accumulating the calculations required to substantiate the pay item quantities shown on the Final Estimates Summary of Pay Item Sheet. The method used by Design to develop some quantities for pay items **IN NO WAY** reflects the method to be used to determine final pay quantities."*

*This combined with the discussion in Rebuttal Item No. 2 above indicates that Superior appears to have based their bid on a non-Contract Document that is "validated" by a document that "**IN NO WAY** reflects the method to be used to determine final pay quantities."*

DISPUTE REVIEW BOARD RECOMMENDATION

6. *This item rebuts the following two comments:*

1. "FDOT's Preparation and Documentation Manual, details extensive Field Records for Documenting Sand-cement"
2. "SCC requests the DRB determine that the acceptable Method of Measurement for Pay Item 104-5, SANDBAGGING, is to count the number of sand bags placed, and multiply by a factor of 1 CF/bag, as justified by the Project Computation Books."

Superior appears to be indicating that the Department has not maintained "extensive field records" to document Pay Item No. 104-5. As noted in Rebuttal Item No. 4 above, the Department has maintained all of the information required to document Pay Item No. 104-5 and has also documented the location the sandbags were placed on the project.

However, in their final statement, Superior does not indicate that "extensive field records" are even necessary. Instead they simply ask that a different conversion factor - one used correctly by Design to approximate a plan quantity and incorrectly by Superior to formulate their bid instead of one determined by Construction based on the size of the sandbags actually placed on the project - be used to convert the number of sandbags to a volumetric measurement.

The Department maintains that the "acceptable" Method of Measurement - and the only one supported by the Contract Provisions - is to determine the actual volume used. The Department has done this by measuring a typical, filled sandbag and multiplying this factor by the number of sandbags placed on the project to determine the pay quantity for this field-measured pay item.

BOARD FINDINGS/EXPLANATION:

- The applicable specifications read:

Supplemental Specification Article 104-9 reads in part:

104-9 Method of Measurement

When separate items for temporary erosion control features are included in the Contract the quantities to be paid for will be: (1) the areas, in square yards [square meters], of Artificial Coverings; (2) the area, in acres [hectares], of Mowing; including litter, debris removal and disposal, equipment, labor materials and incidentals; **(3) the volume, in cubic yards [cubic meters], of Sandbagging, measured in accordance with 530-4.1;**...

...

Supplemental Specification Section 530 - RIPRAP reads in part:

530-4 Method of Measurement

530-4.1 Sand Cement: The quantity to be paid for will be the volume, in cubic yards [cubic meters] of sand actually used in the sand cement mixture and grout, satisfactorily placed and accepted.

...

DISPUTE REVIEW BOARD RECOMMENDATION

- The Basis of Estimates Manual is not a contract document and even states:
“...*IN NO WAY* reflects the method to be used to determine final pay quantities”
- The Department only measured the volume of one sandbag early in the project. In fact, various sizes of bags were utilized. This was acknowledged by the Department during the hearing.
- The Contractor would be entitled to an adjustment in quantity based on a truly representative volumetric sampling of the sandbags placed.

It is sometimes argued that a DRB will provide a recommendation that ignores the contract or is somewhere in between the positions taken by each party; in effect, a compromise. **It is not the DRB's prerogative to substitute its own ideas of fairness and equity for the provisions of the contract. ...**²

BOARD RECOMMENDATION:

Therefore, based on the materials supplied to the Board and presentations to the Board at the DRB hearing, the Board finds no entitlement of Superior to additional compensation based on one cubic foot per sand bag but is entitled to an adjustment in quantity based upon a representative sampling on the above referenced project.

This Board sincerely appreciates the cooperation of all parties and the information presented for its review in making this recommendation.

Please remember that a response to the DRB and the other party of your acceptance or rejection of this recommendation is required within 15 days. Failure to respond constitutes an acceptance of this recommendation by the non-responding party.

I certify that I have participated in all of the meetings of this DRB regarding this issue and concur with the findings and recommendations.

Respectfully Submitted
Disputes Review Board

John H. Duke Sr.; DRB Chairman
William O. Downs III; DRB Member
James W. MacLaughlin; DRB Member

SIGNED FOR AND WITH THE CONCURRENCE OF ALL MEMBERS:



John H. Duke Sr.
DRB Chairman

² DRBF Practices and Procedures Section 1 – Chapter 6