SOUTHERN COMMERCIAL
WATERPROOFING

CONTRACT NO. V659C-712 VABCA-5992

VA MEDICAL CENTER
SALISBURY, NORTH CAROLINA

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OPINION BY ADMINISTRATIVE JUDGE ROBINSON

Southern Commercial Waterproofing (Southern or Contractor) has filed a timely appeal from the final decision by a Contracting Officer (CO) for the Department of Veterans Affairs (VA or Government). Southern claims that the VA required that it hand rake stone mortar joints beyond the depth specified in the Contract, causing additional damage to sound mortar and unanticipated costs of $99,897. The CO denied the claim, taking the position that the Contract clearly required the depth of raking that was done and, that in preparing its bid, Southern underestimated the amount of work involved.

An evidentiary hearing was held in Salisbury, North Carolina. Both entitlement and quantum were at issue. The hearing was conducted by Administrative Judge Patricia Sheridan, who then was the Board's hearing examiner. Judge Sheridan subsequently was appointed to the Board and is participating in this decision as a member of the panel.

The Record for decision consists of the two volume transcript of the hearing; the VA's Rule 4 file, tabs 1-37; Appellant's Supplement, tabs 500-509 and 511-524; Appellant's hearing exhibits, A-1 through A-3; and Government's hearing exhibits, G-1 through G-5. Both parties filed post-hearing briefs.

FINDINGS OF FACT

On May 20, 1998, the VA's National Cemetery Service (NCS) issued Invitation for Bids (IFB) No. 659-9-98. The project was titled "Renovate/Restore Walls at National Cemetery, Salisbury, North Carolina." The existing granite wall to be renovated and restored was composed of irregular shaped stones and surrounded the cemetery for a total length of 2,320 feet. (R4, tab 1)

The IFB contained, *inter alia*, the following relevant clauses derived from the Federal Acquisition Regulation (FAR):

> 52.114-6 Explanation to Prospective Bidders. (APR 1984)
>
> Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is

necessary in submitting bids or the lack of it would be prejudicial to other prospective bidders.

52.236-21 Specifications and Drawings for Construction. (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

* * * * *

The Specifications, at Section 04902, ∂ 3.06, address repointing of mortar joints, as follows:

A (1) Rake out mortar from joints to depths equal to 2-1/2 times their widths, but not less than 3/4" (19mm) or not less than that required to expose sound, unweathered mortar.

* * * * *

A (3) Cut out old mortar by hand with a chisel and mallet unless otherwise indicated. Do not use power – operated grinders without the contracting officer's

> written approval based on submission by contractor of a satisfactory quality-control program and demonstrated ability of operators to use tools without damaging stone.

(R4, tab 1)

Wiley & Wilson, the Project's Architect Engineering firm (A/E), spent considerable time examining the entire 2,320 feet of existing wall before preparing a matrix listing 17 conditions to be dealt with in restoring the wall. Altogether, there were 131 pilasters and 131 wall sections, collectively referred to as "the wall." Contract Drawing S-2, Note 12, addresses repointing of mortar joints at *all* wall sections and pilasters, as follows:

> General Note (All interior and exterior wall and pilaster surfaces): Remove loose mortar from joints around stone. Remove mortar from joints to a depth of 1" and repoint with mortar that matches existing adjacent mortar. Adjust stone to provide uniform joint exposure at each unit of stone.

(Tr. II/6-13; R4, tab 34B)

Contract Drawing S-2, Note 13, pertains to a combined total of 61 (23%) of the 262 pilasters and walls indicated on the matrix. The Note reads as follows:

> Existing interior and exterior stone walls and stone pilasters show evidence of past repairs and repointing that does not match the existing stone, mortar joints, nor the workmanship. All mortar shall be removed and new mortar installed and tooled as in original mortar joint work. See Note 2 above.

(R4, tab 34B)

Note 2 of Contract Drawing S-2 requires that the Contractor repair the first two pilasters (1 & 2) and walls (1-2 & 2-3), so that they can serve as "sample [level of quality] panels" for the entire Project.

In addition, Note 3 of Drawing S-2 requires the cleaning of all exposed stonewall and pilaster surfaces, including removal of environmental stains, dirt, vegetation, tar/asphalt and graffiti.

Photographs taken by the A/E prior to the beginning of any work on the Project show a massive wall constructed of random sized and mostly rectangular blocks of granite. In many photographs, joints are missing mortar, and these joints and gaps vary in width from less than 1" to considerably more than 1". (R4, tab 37)

The A/E firm assigned Mr. Bernard Mazanec to work on this Project. Mr. Mazanec inspected the wall and took the photographs. He then prepared the matrix contained on Contract Drawing S-2. He also prepared the specification section involved in this dispute. He testified that he utilized the AIA [American Institute of Architects] MASTERSPEC titled "Section 04500 – Masonry Restoration and Cleaning." The instructions on page 04500-27 reads:

> Joint Raking:
>
> Unless all joints on project are to be repointed, indicate here, by insert or on drawings, the location of repointing work. Investigate depth required to rake out joints for project and revise below accordingly.

On that same page, immediately following the instructions, is this suggested specification language:

> Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 1/2" nor less than that required to expose sound, unweathered mortar.

In June 1998, prior to bid submission, two employees of Southern, District Manager Noel Smith and Chief Estimator Frank Henry made a visit to the Project site. The two men inspected and measured mortar joints at various

representative locations along the existing wall. They tapped on the mortar joints to determine their soundness. As a result of their efforts, they estimated that approximately 21% of the wall's mortar joints would require repointing, and actually based their bid on what they felt to be a more conservative estimate of repointing 25% of the joints. (Tr. I/28-29, I/44-47; R4, tab 516)

Mr. Henry, a registered professional civil engineer, testified that he interpreted Drawing Note 12 to require that the Contractor rake out only unsound mortar to a maximum depth of one inch, no matter the width of the particular joint being raked. He conceded that, if unsound mortar was encountered at one-inch depths, then it was necessary to continue raking until sound mortar was reached. He saw no conflict with paragraph 3.06.A (1) of Specification Section 04902. Mr. Henry did not consider the 3/4" depth mentioned in the Specifications to be a minimum, but more like a maximum depth unless unsound mortar was encountered between the 3/4" and 1" depths mentioned in the Specification and Drawing. He saw no conflict between the Drawing and Specification language. He also acknowledged that none of the representative masonry restoration projects, which his firm submitted to the VA, involved the restoration of stone structures. (Tr. I/47, 121; Exh. G-1)

Bids were opened on July 14, 1998. Three bids were submitted. Southern's was lowest at $277,712. The CO, in a letter dated July 14, 1998, requested that Southern submit its qualifications and experience of at least five prior jobs similar to the NCS Wall Project. Southern replied in writing on July 20, 1998, listing five projects, three of them federal and one of those at another VA Medical Center. It included several financial and trade references as well as other projects performed over its (then) sixteen years in the field of "concrete/masonry rehabilitation, repairs and problem solving." (R4, tabs 4, 5, 6)

After checking its references, the CO notified Southern of Contract award in a letter dated August 4, 1998. The Contractor received Notice to Proceed on September 2, 1998. Because of other contractual commitments, however, the Contractor was unable to begin on-site performance until December 2, 1998. (R4, tabs 10, 11; Tr. I/124-5)

In a letter of November 30, 1998, Southern requested the CO's permission to use power-operated grinders to remove mortar. The Contractor's Project Coordinator asserted that the grinders would not only "be more productive, but also more precise, offering less chances of damage to the stone than using hand tools." The Contractor's "quality control program" [QCP] was described thusly: "We will use 4" grinders to cut through the center of the mortar; afterwards, a chisel will be used to cut out the mortar left at the top and bottom of the grinder cut." The Project Coordinator closed by offering to assist in scheduling a demonstration of this procedure. (R4, tab 14a)

The A/E advised the CO to insist upon a satisfactory QCP and the Contractor's demonstrated ability to use the power tools. Mr. Mazanec pointed out several areas of concern, including thin blade size, depth of joint penetration, and the availability of "only [proven] skilled workmen" to operate these tools. The A/E also cautioned the VA to see to it that care was exercised to avoid damaging edges of the stones. He advised that any damaged stone was unacceptable and should be replaced. Following the A/E's advice, the CO sent a letter to Southern dated December 7, 1998. She instructed the Contractor to submit a QCP in accordance with the Specifications prior to beginning work, as well as a demonstration of mortar removal using both hand tools and grinders on the sample panel. (R4, tabs 14b, 14c)

The Contractor, on December 30, 1998, responded to the A/E's concerns by proposing to use a 4" grinder with a pre-fabricated guide to control the depth

of the cut – not to exceed 7/8". A 1/8" diamond blade would be used for better precision. The power tools would be used only by qualified journeymen. (R4, tab 16a)

In a letter to Southern dated January 5, 1999, and after several clarifications and a revised QCP submittal, CO Regan approved the use of the power grinder for mortar removal at the wall joints. She later also approved a powered chipping hammer for removing mortar at the capstone. This approval was subject to the previously stipulated demonstration of hand tool and power tool use on the sample panel. The CO followed up with a letter of January 27, 1999 in which she requested that the Contractor provide a credit to the VA for use of the two approved power tools. (R4, tabs 16, 18)

Southern's Project Manager, Joseph Marano, answered the CO's request for a credit proposal in his letter of January 29, 1999. He stated that:

> After reviewing this situation, we find that these changes do not result in a credit that would be due. Although the use of these [power] tools would result in a labor savings, the overall cost of performing this work using power tools would be slightly more expensive.
>
> Attached you will find a spreadsheet showing the estimated difference in cost between using hand tools and power tools for the two work items we are discussing. Because of our commitments on other projects, we are willing to accept this slightly higher cost so that we are able to free up some of our labor resources for these other projects.

The attached spreadsheet showed that it would have cost Southern an estimated additional $616.73 to use power tools to remove the capstones and an estimated additional $548.21 using power tools to remove mortar on the walls. Frank Henry, Southern's Office Manager, testified that the VA was entitled to no credit

because Southern's bid price was already based on using power grinders in the joint repointing work. (R4, Supp. tab 501A, Tr. I/61)

The CO would not allow the use of power tools without a credit, directing Southern to use hand tools instead. The Contractor ultimately removed the mortar using hand tools. The Board finds, and the Government has now conceded, that the CO was wrong to insist on a credit for allowing use of power tools. The only precondition mentioned in the Contract was that the Contractor demonstrate its ability to operate these tools without harming the stones, which it ultimately did to the A/E's satisfaction. (Tr. I/39-40, App. Supp., tab 501b)

Mr. Henry testified that removing the mortar with a hammer and chisel was more labor-intensive than by using a power grinder to cut a center groove followed by removal of the remaining mortar with hammer and chisel. He stated that by estimating for grinder use in conjunction with hammer and chisel, he was able to lower his bid price for the Project. The grinder would cut a groove in the center of the joint and the hammer and chisel would be then used to finish chipping out the mortar from the sides of the stone. Mr. Henry stressed that the removal of mortar to the "greater depth" dictated by the 2-1/2 to 1 ratio that the VA enforced was the cause of the greatest damage to the surrounding sound mortar. (Tr. I/38-62)

The Contract required Southern to submit a "Restoration Program" to the VA prior to beginning work. In a letter dated February 26, 1999, Lisa Davidson, Southern's Project Coordinator, submitted its "Restoration Program for the removal and repointing of fail [sic] masonry joints." Item "A" of that Program read as follows: "With hammer and chisel, remove mortar as necessary to a depth of 3/4" minimum or until sound mortar is found." This was followed by Items "B" through "I" that detailed the entire process of restoring mortar to the stone joints.

The CO approved the proposed Restoration Program in a letter of March 5, 1999, stating that everything in the Plan was acceptable except for two items that were unrelated to raking joints. (R4, tab 21b).

On or about March 18, 1999, while on the job-site, both the CO and her Alternate Contracting Officer's Technical Representative (COTR), Mr. Jim Hines, stated their interpretation of the joint raking depth requirement. They stressed the need to rake to a depth of 2-1/2 times the width of any joint being repointed. In a letter of March 22, 1998, Mr. Marano protested this interpretation to the CO. After reviewing Specification Section 4902, paragraph 3.06.A(1), Marano saw an ambiguity. Contrary to the VA's interpretation, he read the provision to require one of the "following conditions" to be met: "either remove the mortar 2-1/2 times the width on joints where the mortar is 'dead' or, not less than 3/4" where the mortar is sound but fractured on at least one side, or until sound unweathered mortar is found." (R4, tab 22a)

Subsequently, the COTR, William Ward, conferred with Mr. Marano, explaining the VA's position that the 2-1/2 to 1 ratio must be followed as a minimum, even if the mortar was sound at the surface. Mr. Marano became quite agitated, insisting that if sound mortar was encountered at 3/4" depths, no further raking was required under the Contract. (Tr. II/124-25)

In a CURE NOTICE dated March 23, 1999, the CO threatened to terminate the Contract for default if Southern's progress did not improve. In addition to her concerns about progress (29% complete vs. scheduled 70% completion) and insufficient manning of the job, the CO again stated the Government's position that all mortar joints must be raked to a depth equal to the ratio of 2-1/2 times the width of the joints, with 3/4" being a minimum depth. She stressed that the Contractor had been advised of this position repeatedly. (R4, tab 22c)

On April 5, 1999, the Contractor filed a claim with the CO based on the interpretation question and challenging the VA's requirement to rake in accordance with the specified ratio. The CO denied the claim in a final decision letter dated April 15, 1999. She reiterated that the ratio was to be followed literally, with 3/4" being only the *minimum* depth. The Contractor filed a timely appeal that was docketed by this Board as VABCA-5992. (R4, tabs 27b, 27c)

The VA did not expressly require the Contractor to repoint 100 percent of the joints. Nevertheless, the parties agreed that by the time the Project was completed, nearly all of the joints had been repointed. The CO testified that the Government did not anticipate 100% repointing of the wall. (Tr. I/47; II/151-52)

According to Appellant's witnesses, the requirement to remove sound mortar to depths beyond a 1" depth without the assistance of power tools, was sufficiently disruptive to the surrounding stones to loosen otherwise sound mortar and require that it also be repointed. Also, according to these witnesses, often the mortar at depths somewhat lower than one inch was so deteriorated that the joint had to be completely replaced from one side of the wall to the other. It is Appellant's position that had it been permitted to cease mortar removal at one inch depths when the mortar was still sound, it would not have been necessary to replace the adjacent previously-sound mortar and the deteriorated interior mortar. (Tr. I/70-79, 219, 221-23)

The Alternate COTR, James Hines, testified that although many of the joints along the walls appeared sound upon a visual inspection, as soon as the Contractor began to power wash the walls, these joints revealed extensive deterioration. In some cases, the pressure from the hose blew the loose mortar all the way out the other side of the wall. COTR Ward also testified to the extreme deterioration of large portions of the wall. (Tr. II/112-13, 130)

At a job-site meeting on April 25, 1999, the A/E, Mr. Mazanec, expressed agreement with the Contractor's interpretation of the disputed specification, essentially opting to leave the raking depths of mortar joints to the Contractor's "professional discretion." The CO, present at the same meeting stressed that her interpretation, not that of the A/E, represented the Government's position in the dispute. At the hearing, Mr. Mazanec at first agreed with the Government's literal application of the 2-1/2 to 1 ratio, but on cross-examination he equivocated, leaving the actual joint raking depth, "for the most part" to the judgment call of the Contractor's "specialist doing the work in the field." At another point, he stated the need to rake deeper than 1" if the joint was 1" or more in width. But again, he followed by leaving this decision to the "specialist" doing the work. (R4, tab 26a; Tr. II/4-55)

After this appeal had been filed with the Board, Appellant hired the firm of Richard A. Nuhn, P.E., Consultants, to review and evaluate the Contract documents for the wall restoration project at the Salisbury National Cemetery. In addition to reviewing the relevant Specifications and Drawings, Mr. Nuhn also field-inspected the completed perimeter walls. As he stated in his report of February 23, 2000, "[t]he purpose of this review was to determine whether construction techniques and the requirements of the contract documents were in conformance with construction industry standards for remediation of walls of this type." (App. Supp., tab 520)

Mr. Nuhn is a structural engineer with over twenty years of experience in waterproofing and investigative work, often involved in historic restoration projects. He has worked on restoration projects involving both brickwork and stonework. One particular project was at Duke University, where the structures are almost 100% stonework. Although testifying that the mortar repointing at Duke did not require depths exceeding 1", Mr. Nuhn produced no contractual

documents from that project nor did he give the width of those stone joints. Mr. Nuhn testified that standard industry practice at the time of the Contract did not require that stone joints be raked greater than 3/4" to 1" in depth. In fact, he is of the opinion that it is not necessary to rake and repoint deeper than this in order to prevent popouts. In his view, this causes more problems in disturbing otherwise sound mortar. In his report to Southern, Mr. Nuhn lists several sources calling for raking depths of no more than 3/4" to 1" depths, but none of the references pertain to stonework. Mr. Nuhn explains that the 2-1/2 to 1 ratio found in the Specification derives from modular brick restoration and reasons that it does not literally apply to stonework. (Tr. 171-99, App. Supp., tab 520)

Appellant's Operations Manager also testified that, based on the firm's prior experiences, it was standard industry practice to rake no deeper than 1", no matter the type of masonry structure involved. In his view, that was deep enough to prevent "popouts" of mortar. (Tr. I/220-21)

The pre-existing capstones covering the top of the wall had no flashing or membranes to protect the interior from water infiltration. One of the Project's contractual requirements was that such flashing membranes be incorporated beneath the capstones in the restored walls. Mr. Nuhn attributed most of the interior joint deterioration to the lack of flashing and the (65-70 years) age of the wall. (Tr. I/198-99)

The National Park Service, in September 1980, published "Preservation Briefs: 2" titled "Repointing Mortar Joints in Historic *Brick* Buildings." (Emphasis added) This Brief covered many aspects of repointing. Relevant to this dispute is the following paragraph found on page 4:

> **Joint Preparation**: Old mortar should generally be removed to a minimum depth of 2-1/2 times the width of the joint to ensure an adequate bond and to prevent mortar "popouts." For most brick joints, this will

> require removal of the mortar to a depth of approximately 1/2 - 1 inch. Any loose or disintegrated mortar beyond this minimum depth should be removed. . . .

(Exh. G-2)

In October 1998, the National Park Service republished "Preservation Briefs: 2", but expanded it to include other materials in addition to brick. It was titled "Repointing Mortar Joints in Historic *Masonry* Buildings." (Emphasis added) This Brief again covered many aspects of repointing. Relevant to this dispute is the following paragraph found on page 9:

> **Joint Preparation**: Old mortar should be removed to a minimum depth of 2 to 2-1/2 times the width of the joint to ensure an adequate bond and to prevent mortar "popouts" (Figure 8). For most brick joints, this will require removal of the mortar to a depth of approximately 1/2 to 1 inch; for stone masonry with wide joints, mortar may need to be removed to a depth of several inches. Any loose or disintegrated mortar beyond this minimum depth should be removed. . . .

(Exh. G-3)

After the appeal was filed, the VA contacted Mr. Robert Mack of MacDonald & Mack Architects, Ltd., to review the Contract documents and to render an opinion on the disputed specification and drawing provisions. Prior to that contact, Mr. Mack had no involvement with this Project. He was qualified by the VA as an expert witness on preservation of historic masonry structures, particularly with respect to repointing mortar joints. Mr. Mack, an architect with more than twenty-five years experience in historic preservation, is the principal author of the 1980 and revised 1998 "Preservation Briefs 2." He also co-authored

a preceding 1976 version that made no reference to a ratio for brick repointing but merely stated a recommended depth of one inch. Upon reflection and discussion with other masonry specialists, they concluded that historic brick joints so varied in their widths that it would be more accurate to insert the 2-1/2 to 1 ratio to prevent raking joints too deeply when not warranted by the width of the joint. As an example, some brick joints were only 1" wide so that raking 1" (instead of 5/16") could result in damage to the bricks themselves. The ratio was therefore inserted in the 1980 version to avoid this possibility. At that point, the ratio became the primary means to determine joint raking depth rather than some "absolute measure." In the 1998 revision, Mr. Mack and his co-author and advisors expanded the document to cover all types of historic masonry structures. With respect to stone masonry, the authors stressed that this industry standard ratio might well require raking to several inches in depth. (Tr. II/59-72)

Mr. Mack testified that the industry standard of a 2-1/2 to 1 ratio is also reflected in other construction industry standard outline specifications, including that published by the American Institute of Architects (AIA). The AIA MASTERSPEC, Section 04500, dated 1986, covers restoration and cleaning of all types of masonry work. It is not restricted solely to brick restoration. (Tr. II/72; Exh. G-4)

Mr. Mack explained that there is no ambiguity within Specification Section 04902, Paragraph 3.06.A(1) itself. The first phrase of the sentence is the minimum requirement for depths of new masonry, while the two phrases which follow, beginning with "but" simply qualify the depth requirement. As an example, if the joint is only one quarter inch wide, the depth of masonry must be at least three quarters inch deep, not five eighths inch deep (which would be 2-1/2 times the width). If the joint were one inch wide, but if at two and one half inches into the existing masonry it was still loose and unstable, then still more mortar must

be removed before repointing can be done. Thus, the two phrases that follow the minimum requirement actually *expand* that minimum under certain circumstances. Mr. Mack is of the opinion that the unconditional 1" depth requirement in Drawing Note 12 is in conflict with, and subordinate to, the depth to width ratio clearly set forth in the Specification. (R4, tabs 35, 36; Tr. II/58-100)

The witness disagreed with testimony of Appellant's expert, Mr. Nuhn. He explained that the technical basis for the requirement that the masonry joint depth be at least 2-1/2 times its width is the potential for the shallower new masonry to pop out of the joint in the event of a severe freeze-thaw cycle. Thus, it is necessary not only to remove weathered mortar, but possibly sound mortar as well, to the depth dictated by the width of the particular mortar joint being repointed. In his experience, the 2-1/2 to 1 ratio provides sufficient depth of the mortar relative to its width to assure adequate bonding between new and old mortar to prevent popping out. Mr. Mack testified that the ratio and other information in Preservation Briefs 2 represents a nationwide industry standard for historic masonry preservation. He referred to his co-author, John Speweik, a fifth generation stonemason, as well as to the individuals listed in the Acknowledgements (pg. 16), some with private companies and some with governmental entities concerned with historic preservation. These individuals provided professional and technical review of the October 1998 Preservation Briefs 2. (Tr. II/65-83, 90-100)

The witness stressed that because these wall stones were often irregular in shape, it was even more important to observe the 2-1/2 to 1 ratio in removing old mortar. With such irregular stones, the joint width at the surface would likely become narrower as it deepened, making the "thin end" of the mortar joint more susceptible to thermal damage than the upper part, thereby increasing the risk of popouts. The deeper repointing of joints reduces this risk. (Tr. II/96)

DISCUSSION

The Appellant has presented an argument, based on the testimony of several witnesses, that the mortar repointing instructions contained in the Specifications and on Drawing Note 12 are not in conflict. Alternatively, it argues that any conflict or ambiguity was latent. The Government counters that the language of the Specification is clear and susceptible of only one reasonable interpretation, regardless of any conflicting instruction in the Drawing Note. The Government also stresses that under the relevant FAR clause contained in the Contract, so long as the specification is unambiguous, its language governs over a conflicting drawing note. Appellant counters that its pre-bid interpretation reconciled the language of the Specifications and Drawing, so that it saw no patent conflict that would invoke the FAR clause.

The Government's expert, Mr. Mack, testified that Paragraph 3.06A of Specification Section 04500 is clear on its face, and that there is no ambiguity in the following language:

> A (1) Rake out mortar from joints to depths equal to 2-1/2 times their widths, but not less than 3/4" (19mm) or not less than that required to expose sound, unweathered mortar.

The first clause establishes the 2-1/2 to 1 ratio as the controlling measure for raking joints, whatever their widths may be. The following clauses are subordinate, with the second clause stating a *minimum* depth of 3/4". The Appellant's interpretation, on the other hand, would have the effect of making 3/4" to 1" a *maximum* depth for raking (if sound mortar is encountered at that depth), no matter the width of the mortar joint.

Appellant asserts a trade practice and custom that would support its pre-bid interpretation that a 1" depth would be the *maximum* required for mortar

removal unless unsound mortar is still evident. In addition, it makes a credible showing that it relied on that interpretation in estimating its bid price. In such a case, even where a contract's language appears unambiguous, it is prudent to examine the full context in which the parties entered into the contract, including the role of trade practice and custom. ***Metric Constructors, Inc. v. National Aeronautics & Space Administration***, 169 F.3d 747 (Fed.Cir.1999); ***Jowett, Inc. v. United States***, 234 F.3d 1365 (Fed.Cir.2000).

The Appellant contends that the mortar repointing instructions contained in the Drawing Note and in the Specifications are not in conflict. We disagree. Section 04902, paragraph 3.06.A(1) clearly requires that all mortar be raked from the existing stone wall joints "to depths equal to 2-1/2 times their widths . . . . but not less than that required to expose sound, unweathered mortar." We agree with Mr. Mack's opinion that there is no ambiguity within paragraph 3.06.A(1) of the Specification. The minimum depth for raking between the stones is 2-1/2 times the width between them. The language that follows simply extends the depth beyond the established ratio and minimum depth in the event that unsound mortar is encountered. It allows the Contractor to stop raking if, in reaching a depth 2-1/2 times the joint width, but not less than 3/4", sound mortar is evident. This is the only interpretation that renders this paragraph of the Specifications internally consistent. As such, it is in conflict with Drawing Note 12, which applies to raking loose mortar from joints *and limits the depth to 1"*, without even mentioning the necessity to continue raking in the event that unsound mortar persists at the 1"depth.

In attempting to persuade the Board that the language of the Contract could be read to allow the Contractor to rake the stone joints no more than 3/4" to 1" deep (unless unsound mortar was encountered), Appellant's witnesses testified that for masonry restoration, it is standard trade practice to rake no

deeper than 1", and to go deeper only if the mortar is unsound at that depth. The witnesses also testified that it is poor practice to continue to rake joints after sound mortar is encountered, contending that the resultant impact harmed and dislodged the wall's adjacent stones and mortar.

On the other hand, the VA's expert witness, the individual who actually co-authored both the 1980 and 1998 editions of the U. S. Department of Interior's Preservation Briefs 2, testified convincingly that with respect to stone masonry repointing, there is a sound technical basis for the joint depth to joint width ratio of 2-1/2 to 1. It is to assure more complete bonding, thus avoiding mortar pop-outs from temperature differentials. His testimony, consistent with his co-authored publications that offer guidance on preferable methods of restoring historic brick and other masonry structures, convinces the Board that whereas the 3/4" to 1" maximum (sound) joint depth is the trade practice for repointing *historic brick structures*, a 2-1/2 to 1 depth to width ratio is the appropriate standard for repointing of *historic stone structures*. His testimony is further buttressed by the language of the AIA guide specification for masonry restoration (which is not limited to brick structures), that predated this Contract by two years. It unequivocally states, in the same manner as the disputed language of the Specification, that mortar is to be raked from the masonry joints using the same 2-1/2 to 1 depth to width ratio.

Mr. Nuhn, the Appellant's expert witness, was of the opinion that a maximum 1" depth was sufficient for joint repointing, no matter the joint width or the type of masonry involved. He saw no benefit in raking the joints any deeper. He mentioned several historic restoration projects with which he had been involved, but did not state what the width of the existing stone joints had been. Without that information it is not possible to know whether one-inch raking of the joints even deviated from the disputed ratio. Indeed, if the stones

were of uniform size, the joints could have been only 3/8" wide but still have conformed to the ratio. Most importantly, Appellant's expert and its other witnesses failed to persuade the Board that the 2-1/2 to 1 ratio stated in the Specifications was in any way unclear or ambiguous. The Appellant's assertion of a trade practice and custom is insufficiently persuasive to create an ambiguity in language that is otherwise clear on its face. Even had the Board been persuaded that Appellant's asserted trade practice was *bona fide*, it could not alter the contractual requirement for strict compliance with the *clearly-stated* language found in the Specifications. ***Western States Construction Co. v. United States***, 26 Cl. Ct. 818 (1992).

In examining the two recent Federal Circuit opinions concerning the proper role of trade practice in interpreting contracts, we find that in this Appeal, the Specification's 2-1/2 to 1 ratio, followed by a 3/4" *minimum* depth, is as clear and unambiguous as the disputed language in ***Jowett***. There, the Court held that the requirement to insulate certain clearly identified ducts could not be overridden by an asserted trade practice of leaving such ducts uninsulated. In ***Metric Constructors***, by contrast, testimony established that there is a well-recognized trade practice and custom that when all light bulbs are to be replaced on a project, regardless of their age or condition, the term "relamping" is ordinarily used. Because that term was missing from the contract at issue, the Court found the language to be latently ambiguous and held the Government to be unjustified in taking a credit for completely relamping the project. Unlike the situation in ***Metric Constructors***, there is no such "missing term" in this appeal.

It is inconceivable that any contractor would not read both the Specifications and the Drawing Notes prior to preparing its bid. These were not voluminous Specifications or Drawings; the pertinent provisions dealt with one of the most important aspects of this wall restoration project, and were neither

hidden nor vague. As such, the conflict between the Drawing and Specifications regarding the depth of masonry repointing was patent and glaring. In such a case, a bidder has a choice. The standard FAR clause 52.236-21, "Specifications and Drawings for Construction," was made a part of this Contract. It gives precedence to specification language in the event of a conflict with drawing language. Thus, the contractor can base its bid solely on the specification language, ignoring conflicting information in the drawings. The bidder may also inquire prior to bidding, to ascertain whether the Government intended for the language of the specification or the drawing to govern. In this case, the Appellant did neither, electing simply to ignore the conflicting information and basing its bid on the language of Drawing Note 12. In accordance with the Contract's FAR provision, the clear language of the Specification – the 2-1/2 to 1 ratio - governs over the stated depth in Drawing Note 12. ***Conner Brothers Construction Company, Inc.***, VABCA Nos. 2504 *et al*., 95-2 BCA ∂ 27,910, *aff'd,* ***Conner Brothers Construction Co., Inc. v. Brown***, 113 F.3d 1256 (Fed.Cir.1997); ***John A. Volpe Construction Co., Inc.,*** VACAB No. 638, 68-1 BCA ∂ 68,567.

The Appellant has pointed to Mr. Mazanec's apparent agreement with Appellant that a 1" raking depth was all that the Contract required. Examining the transcript, it is difficult to determine the basis for his position, considering the language of the Specification. In the final analysis, however, it is apparent that he would have left the raking depth to the judgment of the Contractor's masonry specialists rather than requiring strict adherence to the specified ratio. Nevertheless, it was his A/E firm that based the Specification on language in the AIA Masterspec – language that we find to unambiguously require raking in accordance with the ratio. Mr. Mazanec's position therefore is at variance with the clear language of the Specification and the Board disregards his elastic interpretation of the disputed language.

The Appellant also asserts that the Government initially shared its interpretation. While the CO approved Southern's Restoration Plan containing a 3/4" *minimum* raking depth, we do not see any shared or contemporaneous interpretation with the Contractor. There was no stated intention by the Contractor not to comply with the ratio stated in the Specifications. As a matter of fact, the Restoration Plan failed to mention the ratio. Once, the CO realized that the Contractor downplayed the importance of literally adhering to the stated ratio, she immediately and repeatedly made it clear to Appellant that the ratio must be followed. The CO did not knowingly agree to any deviation from the required ratio, regardless of the significance Appellant attributes to her approval of the Plan.

Included in the Appellant's quantum calculations, although not separately itemized because of the nature of the modified total cost claim, are alleged additional costs incurred in using hand tools rather than the power tools. The labor hours involved are intertwined with the hours involved in repointing the joints and cannot be separately identified. Likewise, any mortar damage exacerbated by using hand tools is conjectural at best, since the grinder blade would only have worked to a depth of 7/8", and the Appellant's witness testified that most of the damage occurred beyond that depth – where hand tools had to be used in any event. We also cannot ignore the Appellant's *initial* position that no credit was due because the cost of power tool use slightly exceeded that of using hand tools.

While the Government concedes that the CO was wrong in demanding a credit for allowing use of power tools, it has stressed that there was never a separate claim submitted for the power tool – hand tool differential. As we have stated, the power tool issue was simply part of the quantum sought in this appeal. Because we deny entitlement in the claim as it relates to the

interpretation issue, and because of the impossibility of isolating costs solely attributable to hand tool use, we cannot separately compensate Appellant for additional costs associated with CO's denial of power tool use.

In the same vein, the Appellant points to the fact that nearly 100% of the wall joints were ultimately repointed, a situation which no one, including the Government representatives, had anticipated. While the Record does establish that fact, the Appellant never presented this as a claim under the Differing Site Conditions clause of the Contract. The Government made no express representations concerning the actual amount of repointing needed, so there could have been no "Type I" (misrepresentation) condition. The Appellant certainly failed to present sufficient evidence to support a "Type II" (unusual and hidden) condition, nor was the Government given sufficient notice to defend against such a claim. The wall was very old and the capstones had no flashing or other protective membrane to protect from water infiltration to the inner portions of the wall. In light of the above, the deteriorated condition of the inner wall mortar could not have been totally unanticipated. Witnesses testified that large sections of mortar were dislodged as soon as the wall was pressure washed prior to the beginning of raking and repointing, indicating that a more thorough pre-bid site investigation may well have revealed the extensive deterioration of much of the mortar. Furthermore, Drawing Note 13 and the matrix indicate that 23% of the wall joints have to be repointed (in order to match the existing stone) no matter their condition, while Note 12 and the matrix require that all other areas of the wall must be repointed as necessary. The Appellant states that it only estimated repointing 25% of all wall joints. This means that Appellant either overlooked or misread Drawing Note 13 or that it assigned hardly any costs for repointing the remaining 77% of the wall. The Appellant's bid estimate for repointing cannot be considered reasonable. Because of that, and in light of

Appellant's "modified total cost" approach, there would be no method by which to fashion any monetary recovery even if the Appellant had presented this as a differing site condition claim.

DECISION

For all of the above-stated reasons, this appeal is ***denied***.

DATE: **August 9, 2001**

JAMES K. ROBINSON
Administrative Judge
Panel Chairman

We Concur:

MORRIS PULLARA, JR.
Administrative Judge

PATRICIA J. SHERIDAN
Administrative Judge