

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --)
)
M. A. Mortenson Company (On behalf of) ASBCA Nos. 53647, 53975, 54111
Grazzini Brothers and Company))
)
Under Contract No. DACA85-94-C-0031)

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OPINION BY ADMINISTRATIVE JUDGE SHACKLEFORD

These consolidated appeals are brought by M. A. Mortenson Company (Mortenson) on behalf of Grazzini Brothers & Company (Grazzini), a subcontractor on a military hospital construction project at Elmendorf AFB, Alaska. Olson & Price represent appellant on ASBCA No. 53647. Moss & Barnett represent appellant on ASBCA Nos. 53975 and 54111. All appeals have been submitted on the record¹ pursuant to Board Rule 11 and only entitlement is before us.

¹ The record consists of the Rule 4 file and supplement submitted by the government in ASBCA No. 53647 (R4, 53647, tabs 1 to 155); a Rule 4 file submitted by appellant in ASBCA No. 53647 (app. supp. R4, 53647, tabs 200 to 212); a Rule 4 file submitted by the government in ASBCA No. 53975 (R4, 53975, tabs 1 to 21), a supplement in ASBCA No. 53975 submitted by appellant (app. supp R4, 53975, tabs 1 to 5); a Rule 4 file and supplement submitted by the government in ASBCA No. 54111 (R4, 54111, tabs 1 to 72), a supplement in ASBCA No. 54111 submitted by appellant (app. supp R4,

Initial and reply briefs from both parties have been filed in ASBCA Nos. 53647 and 53975. Initial briefs only were filed by the parties in ASBCA No. 54111.

FINDINGS OF FACT
ASBCA No. 53647 – Lippage and Grout Color

1. On 16 September 1994, the United States Army Corps of Engineers awarded Contract No. DACA85-94-C-0031 to M.A. Mortenson Company (Mortenson) for the construction of a 110-bed multi-story composite medical facility to serve both the Air Force and the Department of Veteran Affairs. Mortenson, on 19 September 1994, entered into a subcontract with Grazzini for installation of ceramic tile. (ASBCA No. 53647, compl. & answer, ¶¶ 1, 7, 13, 14)

2. During performance of the contract, from approximately October 1996 through approximately January 1999, the government repeatedly required Grazzini to remove and replace individual wall tiles with lippage over 1/32”, often requiring Grazzini to remove and replace the same tiles. The government determined that tiles installed with more than 1/32” lippage were out of tolerance. (Compl. & answer, ¶¶ 16) Lippage is a condition where the edge of adjacent tiles are out of plane or not flush with each other (R4, 53647, tab 154 at 2).

3. The contract included the MATERIAL AND WORKMANSHIP (APR 1984) clause prescribed at FAR 52.236-0005, which required all work to be performed in a skillful and workmanlike manner. The tile specification was set forth in section 09300 of the specification (R4, 53647, tab 51). The specification referenced several American National Standards Institute (ANSI) publications, including ANSI 108.1 (1985), Installation of Grout in Ceramic Tile with Portland Cement Mortar, ANSI 108.5 (1985), Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar and ANSI 137.1 (1988), Ceramic Tile (*id.* at 1) and a publication from the Tile Council of America, TCA-01 (1992), Handbook for Ceramic Tile Installation (*id.* at 2). In accordance with ¶ 1.1 of the tile specification, publications listed formed a part of the tile specification to the extent referenced.

4. Part 3, EXECUTION, of the tile specification provided in part as follows:

54111, tabs 1 to 6). Twelve depositions submitted by appellant are included in the record as are the exhibits referenced therein. The deposition exhibits are referenced at R4, tab 204 and are separately numbered 500 to 683. They are referenced as app. supp. R4, depts., tabs 500 to 683.

3.1 PREPARATORY WORK AND WORKMANSHIP

Surface to receive tile shall be inspected and shall conform to the requirements to ANSI 108.1 for surface conditions for the type setting bed specified and for workmanship.

3.2 GENERAL INSTALLATION REQUIREMENTS

Tile work shall not be started until roughing in for mechanical and electrical work has been completed and tested, and built-in items requiring membrane waterproofing have been installed and tested. . . . **Tile shall be installed with the respective surfaces in true even planes to the elevations and grades shown. . . .**

3.3 INSTALLATION OF WALL TILE

Wall tile shall be installed in accordance with TCA-01, method W-221 for solid backing; and method W-241 for metal studs and as shown on drawings.

(Emphasis added) (*Id.* at 5-6)

5. Paragraph 3.3.1 of the tile specification offered a choice to the contractor of installing wall tile over a plastic mortar bed or a cured mortar bed, and where a cured mortar bed was chosen, the cured mortar bed and materials were required to comply with ANSI 108.5 (R4, 53647, tab 51 at 6). Grazzini used a cured mortar bed (app. br. 5).

6. The ANSI standard specifications for installation of ceramic tile are specifically intended to describe the minimum requirements for workmanship and installation (app. supp. R4, 53647, tab 209, ¶ A-1/1 at 10). ANSI 108.5 (app. supp. R4, 53647, tab 209 at 16) set forth requirements for wall tile installations in section A-4.3.2. Paragraph A-4.3.2.1.2 refers to section A-3 for “General Requirements for Tile Installations.” (*Id.*) Among those general requirements, the following are relevant:

A-3.1 Inspection of Surfaces and Conditions:

Prior to commencing ceramic tilework, the tile contractor shall inspect surfaces to receive tile and accessories and he shall notify the architect or other designated authority in writing of any defects or conditions that will prevent a satisfactory tile installation. Installation work shall not proceed until satisfactory conditions are provided which include:

....

- A-3.1.4 Surfaces to receive tile shall be plumb, level and true with square corners. Maximum variation from required plane shall be:
 - A-3.1.4.1 Portland cement mortar bed (A108.1 Section A-4.1).
 - A-3.1.4.1.2 Wall and ceiling surfaces-1/4 inch in 8 feet (6 mm in 2.4 m).

....

- A-3.1.4.3 Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar

....

- A-3.1.4.3.2 Vertical surfaces-1/8 inch in 8 feet (3mm in 2.4 m).

....

- A-3.3.7 Make corners of all tile flush and level with corners of adjacent tile, with due allowance to tolerances for tile as specified in ANSI A137.1.**

(Emphasis added) (App. supp. R4, 53647, tab 209 at 11-12)

In addition, ANSI 108.5, paragraph A-4.3.2.2.2, required the mortar to uniformly cover the surface, with no bare spots and paragraph A-4.3.2.3.4 included a requirement to “[t]horoughly beat all tile ... into place with a beating block to obtain maximum contact” of mortar and tile (*id.* at 16).

7. Paragraph 2.1.1 of the tile specification required that the tile should be “standard grade conforming to ANSI A137.1 (R4, 53647, tab 51 at 3). By its terms the specifications in ANSI A137.1 “serve as a reference standard for buyers and specifiers of . . . [t]ile and as a guide to producers in maintaining quality control of the manufacture of such ceramic tile” (App. supp. R4, 53647, tab 208 at 2).

8. For flat glazed wall tile such as was provided by Grazzini to the project in question, ANSI A137.1 provided that such tile should conform to certain specified requirements when tested in accordance with paragraph 4.4.2 of that specification. Paragraph 4.4.2 describes the methodology for testing, *inter alia*, the dimensional characteristics of a sample of 80 glazed wall tiles and such sample was to be tested for thickness, facial dimension, spacers, warpage, wedging and color uniformity. Paragraph 6.1.1.2.4 states that “the range of major thicknesses for the tile in the sample shall not exceed 0.031 inch.” For facial dimensions, paragraph 6.1.1.2.5 provides that the “average major facial dimension(s) of each tile . . . shall not vary more than 4.0 percent from the nominal dimension(s)” and the “range(s) of the average major facial dimensions of all tile in the sample shall not exceed 0.6 percent of the largest value in the range.” Wedging of each tile in the sample was not to exceed 0.6 percent (paragraph 6.1.1.2.8). Wedging variations refer to the degree to which a tile may be out of square and has no effect on lippage (R4, 53647, tab 155 at 3; tab 149 (Lynch deposition at 13)). With respect to warpage, in paragraph 6.1.1.2.7, ANSI 137.1 provided:

When measured as described in ASTM C 485, calling convex plus and concave minus, the algebraic averages of all edge warpages and all diagonal warpages shall not exceed plus 0.4 percent or be less than minus 0.3 percent. Neither the ranges of edge warpages nor diagonal warpage shall exceed 0.5 percent.

(*Id.* at 9-10) Warpage is a variation in thickness of a tile measured by the deviation from a straight line between two reference points and does affect lippage (R4, 53647, tab 149 (Lynch deposition at 11-12); tab 155 at 3). Lippage may also be caused by improper beat- in (R4, 53547, tab 149 (Lynch deposition at 51)), improper installation (*id.* at 12) and by deviations in the substrate (*id.* at 33).

9. Both parties contend and we find that neither the specification nor any of the incorporated ANSI standards nor the Tile Council of America Handbook (TCA-01) specifically provided an installation tolerance for lippage (R4, 53647, tab 51; app. supp. R4, 53647, tabs 209-211; gov't br. at 5; app. br. at 8). However, by the time this appeal was in litigation, a tolerance of 1/32" of lippage had been included in ANSI 108.5 (R4 53647, tab 149 (Lynch deposition 38-39)).

10. Technical Specification 01030, SPECIAL ITEMS, included ¶ 28, ROOM MOCK-UPS, which required the contractor to construct certain rooms as completely finished spaces as would be required in the completed facility. Mock-up rooms were to "be used for approval, quality control, and training and" were to be "left in place during the entire construction period." An operating room was included among those listed. (R4, 53647, tab 49 at 14)

11. Section 01440 of the specifications, CONTRACTOR QUALITY CONTROL, set forth the parameters of the contractor run quality control program for the project. A Contractor Quality Control (CQC) plan was required to be submitted and a CQC System Manager was to be named. Paragraph 3.6 called for at least three phases of control to be conducted by the CQC System Manager. The first was a preparatory phase required to be performed prior to beginning any identifiable feature of the work. Among other things, during this preparatory phase, the CQC manager was to examine the work area to assure that all required preliminary work has been completed and complies with the contract. (R4, 53647, tab 50, ¶¶ 3.1, 3.2.1, 3.4.1, 3.6, 3.6.1)

12. The next CQC phase was referred to as the Initial Phase, and it was to be performed at the beginning of a definable feature of work. During this phase, the CQC Manager was to check the work for compliance with contract requirements, establish a level of workmanship and verify that it met minimum acceptable workmanship standards. (*Id.*, ¶ 3.6.2)

13. The Follow-up Phase included ascertaining that all deficiencies were corrected prior to the start of additional features affected by any deficient work (*id.*, ¶ 3.6.3).

14. Paragraph 3.8 of § 01440, COMPLETION INSPECTION, called for inspection by the CQC manager and preparation of a list of deficiencies (R4, 53647, tab 50 at 10).

15. Paragraph 3.11 of § 01440, NOTIFICATION OF NONCOMPLIANCE, provided in part as follows:

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor at the site of the work, shall be deemed sufficient for purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

(*Id.* at 11)

16. The contract included the clause prescribed by FAR 52.246-0012, INSPECTION OF CONSTRUCTION (JULY 1986). The clause provides:

(a) Definition. “Work” includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

.....

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price.

(R4, 53647, tab 48)

17. On 20 August 1996 the government issued Non-Conformance Report No. 512 (NCR 512) for Operating Room mock-up 2E136, stating that the tile installation did not meet the contract specification requirement to make corners of all tiles flush with corners of adjacent tile with due allowance to the tolerance for tile “which is typically less than” 1/32 of an inch. (R4, 53647, tab 41) The standard does state that corners of all tile should be flush and level with corners of adjacent tile, but it adds “with due allowance for the tolerances set forth in A137.1.” It does not provide for a 1/32” tolerance.

18. Mortenson responded to NCR 512 on 28 August 1996 by attaching correspondence it had received from Grazzini. The first, dated 20 August 1996, referred to recent conversations regarding the tile installation in the operating room mock-up and stated:

Prior to initial inspection of the substrate and lighting in the above mentioned project, we feel it only fair to caution you. In order to install the wall Tile to look its best, we must require perfectly plumb and square walls with no voids within the tolerances of the specifications. Should these problems be noted at the time of our inspection, prior to the installation of the Ceramic Wall Tile, we will have no choice except to reject such walls for the installation of Ceramic Wall Tile.

Further, it must be understood that the size tolerance for this type of Ceramic Tile per ANSI specifications is very lenient. Used on the wall, the allowable size variation is much more visible than when used on the floor. Please refer to ANSI A137.1 . . . Paragraph 6.1.1.2.5 This paragraph allows a 4 percent variation from the nominal facial dimensions. The average variation in the sample cannot exceed .6 percent of the largest value in the range. Limits on warping and wedging are covered on the next two paragraphs of ANSI specifications.

Because of the above mentioned, it must be understood that a Tile used for this project, when placed on the wall, will contain this visible variation. This variation will be accentuated more due to the use of cove or wall washer lighting, installed in the above mentioned project. This may prove to have adverse affects on the Ceramic Tile installation. . . .

All these conditions are beyond the control of the tile contractor, and while the installation we make will be to the best of our professional ability, we will not be responsible for any variation of wall Tile installation which is within these tolerances.

(Id.)

19. Mortenson also forwarded a letter of 27 August 1996 from Grazzini, which noted that the COE ANSI quotes were correct but that Grazzini found the tolerance of 1/32" to be incorrect and they were unable to ascertain how it was derived. Further, Grazzini stated in part:

There are many aspects of Tile inspection to consider before making a judgment on tolerances outlines [sic] in ANSI A137.1-1988. If we take into account the following tolerances: 6.1.1.2.4 Thickness, 6.1.1.2.7 Warpage, and 6.1.1.2.8 Wedging the variation from Tile can be as great as 1/8". The Tile that is being installed meets the requirements of ANSI 137.1-1988 (Mastergrade certificates attached). As outlined in our Serial Letter No. 25319-34, dated August 20, 1996 (attached). [sic] The lighting in the above mentioned area may cause adverse visual appearance of Tile shadowing.

We request at this time the COE rescind NCR 512 until such time it is proven by a certified testing laboratory and/or an experienced non biased Tile consultant that the Tile and installation do not conform to specifications.

The government declined to rescind NCR 512. *(Id.)*

20. The notes to the TCA Handbook describes wall-washer lighting and its effect, as follows:

Use of wall-washer and cove type lighting, where the lights are located either at the wall/ceiling interface, or mounted directly on the wall, are popular techniques of producing dramatic room lighting effects. When proper backing surfaces, installation materials and methods, and location of light fixtures are not carefully coordinated, these lighting techniques may produce shadows and undesirable [sic] effects with ceramic tiles. Similar shadows are created

from side lighting interior walls and floors when light shines at that angle through windows and doors.

(R4, 53647, tab 211 at 8) While it is true that wall washer lighting will accentuate wall tile imperfections, the operating room mockup did not have such lighting as it was equipped with ceiling lights directed toward the center of the room (R4, 53647, tab 154 at 5).

21. In a letter dated 11 September 1996 Grazzini suggested to Mortenson that the tile problem be reviewed by an inspector from the Tile Council of America (TCA). Grazzini also stated that when adding together the tolerances for substrate, tile thickness, tile warpage and wedging of tile, the total tolerance (or allowable lippage) might be as high as 5/16.” (R4, 53647, tab 97) We cannot fully embrace this estimate because it includes wedging, which, as we have found, does not contribute to lippage (finding 8).

22. On 25 September 1996, Mortenson, Grazzini and government representatives met to discuss the tile installation problem. The government found the tile installation at the operating room mockup unacceptable because it did not lay in a true and even plane and the corners were not flush and committed to “forward their calculations for the 1/31” deviation in plane of adjacent tile on 9/30/96.” Grazzini contended that the Corps of Engineers was not qualified to evaluate the installation and requested a representative from the TCA to evaluate workmanship issues. Grazzini offered to pay the costs for the consultant if the tile was rejected provided the government would pay the cost if the tile was found to be acceptable. (R4, 53647, tab 99)

23. On 4 October 1996, the contracting officer wrote Mortenson with respect to the issue of the workmanship of the tile installation stating in part:

I have examined the tile work in the OR Mock-up 2E136 and have found the workmanship to be unacceptable primarily due to numerous out of plane tiles, mis-aligned joints and non-uniform grout color. I am most concerned that the tile work has continued outside the mock-up areas without first reaching an acceptable level of quality. Despite my objections to the workmanship and my refusal to allow payment for the work in place the unacceptable installation of tile continues outside of the mock-up areas. You are proceeding at your own risk.

At our meeting of September 25, 1996 your subcontractor continued to insist that his workmanship was acceptable and suggested that an independent expert be retained to evaluate

the installation. It was agreed that if the expert found the workmanship to be unacceptable that you would pay for the services. I have taken action to retain the services of an independent consultant to review the installations in question. It is expected that the cost of the services will be in the range of \$5,000 to \$10,000 once all of the markups, expenses and travel costs are included. I am attempting to have the consultant on-site on Friday, October 11, 1996. Should the consultant determine that the workmanship is unacceptable, I intend to back charge you per our agreement and the provisions of contract Section E, Inspection and Acceptance, Inspection of Construction (JUL 1986), FAR 52.246.0012. Should you not agree to this approach you should inform me immediately.

(R4, 53647, tab 42)

24. On 11 October 1996, Robert T. Young (Young), a ceramic tile consultant and industry liaison to the Tile Council of America, inspected the tile in several rooms including Room 2E136, the operating room mock-up (R4, 53647, tab 63; app. supp. R4, 53647, tab 211 at 2). Grazzini had no objection to Mr. Young performing the inspection (R4, 53647, tab 146 at 182). Following his inspection, Young prepared a report dated 14 October 1996 in which he outlined his observations, his conclusions and his recommendations (R4, 53647, tab 63).

25. Young observed tile out of plane in excess of 1/32" in Rooms 2E136 and 2E135. He found one area of Room 2E136 to be excessively out of plane and alignment and the grout joints more irregular such that the area had a poor aesthetic appearance. (*Id.* at 1)

26. Young removed four tile panels in two locations in Room 2E136 and one location in Room 2E135 in an attempt to find the cause of the excessive lippage. In both rooms, one tile in each of the four tile panel was more than 1/32" out of plane with adjoining pieces. He also examined the thickness of the mortar to determine if the lipped tile had more mortar behind it than tile which was not out of plane. He could not make an accurate judgment in Room 2E136, but as to the out of plane piece in 2E135, he observed that it had not been beaten into the bonding mortar equal to the adjoining pieces. (*Id.* at 1-2)

27. In several locations, Young found horizontal and vertical cracks in the mortar bed, which abutted paper backed metal lath installed over a polyethylene sheet. Several of the cracks were aligned with the metal lath. (*Id.* at 2)

28. Young also examined uninstalled tile from cartons. While he found no evidence of substantial variation in thickness, he did find some tile which were warped as much as 1/32". (*Id.* at 3)

29. Young made the following relevant conclusions in his report:

1. The excessive lippage is caused by uneven mortar application, poor beat in or a combination of both. Warped tile is a contributing factor to cause part of the lippage. Tile that are out of plane in excess of 1/32" are not in compliance with industry standards or the specifications.
3. A combination of tile irregularity, alignment, grout, and poor beat in caused the unacceptable area on the North wall between Nurse Call and Light Control [in Room 2E136].
4. Paint on the mortar bed is not an acceptable surface for bonding tiles.
5. The tile are [sic] warped but not in excess of the standards as described by American National Standards Institute (ANSI) 137.1.
6. The cracks in the wall mortar are occurring at lines where the mortar is thinner due to being over vertical studs or over paper attached lines in the metal lath. The thinner lines in the mortar cause a weakened point similar to a concrete control joint. Cracks are occurring due to stress in the wall probably caused by thermal expansion, weight, mortar shrinkage or a combination of part or all of the possibilities. The mortar mix does not appear to be excessive in cement to sand ratio and it is doubtful that reducing the cement ratio would reduce the cracking. Removing the paper on the back of the metal lath would eliminate the thin line in the mortar and reduce the existing control joint condition. The vertical thinner line at the metal studs cannot be changed to eliminate the weak vertical points in the wall. It is doubtful that all

cracking in the mortar bed will be eliminated over metal stud wall of this dimension.

7. It is probable that a portion of the cracks in the wall mortar are sufficiently active to cause cracks in the surface of the tile wall. A more resilient type adhesive would reduce or eliminate most of the cracks in the face of the tile wall. The resilient type adhesive would transfer the cracks to the grout joints in most cases without cracking the tile.
8. The grout should be removed at the vertical joints at the wall corners and filled with silicone sealant.

(*Id.* at 3-4)

30. Young recommended the removal and replacement of all tile lipped in excess of 1/32” with the adjoining pieces (*id.* at 4). He also recommended that the tile be beaten evenly within a few minutes after being placed on the bonding material in order to seat tile uniformly and reduce lippage (*id.* at 6).

31. On 22 October 1996, Mortenson advised Grazzini that the adjacent tiles in Room 2E136 needed to be corrected within 1/32” as recommended by Young and that it needed to be corrected in order to obtain Corps of Engineer acceptance (R4, 53647, tab 64). Grazzini responded that it had received and reviewed Young’s report but would not proceed with the corrective work without written direction from the Corps of Engineers as to what is to be done (R4, 53647, tab 65).

32. Rose Voigt (Voigt), Grazzini’s onsite representative advised Mortenson’s CQC System Manager that Grazzini had no intention of correcting the deficiencies in the tiles in the operating room mockup which Mortenson believed “exceed[ed] acceptable specified TCA tolerances.”² Thus on 1 November 1996, Mortenson advised Grazzini as follows:

A QC/QA inspection was done as a courtesy to Grazzini Brothers and Company to determine the acceptability of the tile installation in 2E136. This inspection identified the tile requiring corrective work noted above. This was done to allow Grazzini Brothers an opportunity to correct the obvious deficiencies prior to installation of additional finish materials.

² We are uncertain as to what TCA tolerance was referred to.

Be advised that the responsibility to comply with the requirements of the contract documents is the responsibility of Grazzini Brothers. MAM is not required to direct corrective action when deficiencies are noted. It is the responsibility of Grazzini to correct the deficiencies noted or as an alternative advise this office that it is the opinion of Grazzini Brothers that said work is in compliance with the contract documents.

(R4, 53647, tab 67)

33. The Administrative Contracting Officer (ACO), Alex Morrison (Morrison), advised Mortenson on 13 November 1996 that out of tolerance tile work was being installed in areas other than the operating room mockup and that this work was similarly unacceptable. A copy of Young's report on the tile workmanship was attached and Mortenson was alerted that it would be charged for the consultant's work as agreed, and further was told to take immediate action to correct the deficiencies noted in the report. (R4, 53647, tab 37) When informed it was expected to pay for the tile inspection, Grazzini insisted it had made no such agreement.³ Further, Grazzini expressed concerns about the limited access it was given to the inspection and limitations on its conversations with Young about the inspection. (R4, 53647, tab 133)

34. Grazzini contended in a letter to Mortenson dated 23 December 1996 that the cause of the bad appearance of the ceramic tile installation in Rooms 1F153 and 1F146 was the wall-washer lighting and cited industry publications which recognized and offered suggestions for eliminating the phenomena. Mortenson forwarded Grazzini's letter to ACO Morrison and attributed the unappealing appearance of the tile to wall washer lighting. The Mortenson letter stated in part:

Based on this correspondence, I performed a detailed inspection of rooms 1F153 and 1F146. The inspection was not completed because it was apparent early [in] the inspection process that the quality of the tile installation was not at a level of acceptability to warrant further inspection. Grazzini Bros. & Co. was advised of same.

A copy of the follow up inspection report was forwarded to your office. Tiles that were noted to be out of tolerance were marked during the inspection.

³ The enforceability of any alleged agreement between Mortenson/Grazzini and the government for the cost of the consultant is not before us.

(R4, 53647, tab 36)

35. Morrison responded to this letter on 15 January 1997, stating:

I agree with your assessment that the ceramic tile workmanship is unacceptable. As discussed in the DAL TILE literature attached to Grazzini Brothers & Co. December 23, 1996, letter, the use of a mortar bed installation is the recommended method to overcome the negative effects of wall wash lighting. This aspect is also recognized by TCA. Mortar bed installation of ceramic tile is required by the contract. Please also note that the DAL TILE literature also states that for best results the mortar beds should still be plastic during the installation of tiles. My staff has suggested this to you on several occasions.

(R4, 53647, tab 31)

36. On 30 December 1996, the government advised Mortenson that the ceramic tile workmanship continued to be unacceptable since it continued to see ceramic tiles installed out of plane and alignment and installed over deficient mortar beds (bulging cracks and other variations in plane) and that the piecemeal effort to repair deficient work had not produced satisfactory results (R4, 53647, tabs 32, 35). These deficiencies continued as of 13 January 1997 when the ACO advised Mortenson:

I am most concerned that despite your agreement that the ceramic tile workmanship is unacceptable, I have yet to see satisfactory corrective action and deficient installation is allowed to continue. Follow-on work and installation . . . is occurring in areas with major deficiencies which are not correctable by singular tile replacement.

Deeming the contractor's management and control of the tile work unacceptable, the government advised Mortenson it was suspending payment for the tile work until the issue was resolved. (R4, 53647, tab 32)

37. When advised the government was suspending payment for the ceramic tile, Grazzini wrote to Mortenson stating in part as follows:

It is manifestly unfair for the COE to impose the burden of repetitive inspections, by different people, and to expect us to

respond to the diverse requirements of these individuals. Inspecting tile walls with flashlights in dark rooms, we have never heard of such a form of inspection, quite obviously unacceptable inspection techniques.

We, frankly, do not know how to get the COE to accept our installation, we are at our wits end, with their completely unreasonable attitude on this project. We feel that we are in a completely no win situation with the COE. They can do as they please, make unsubstantiated statements, withhold payments, all at their whim, and we have no recourse or action we can take to remedy the situation. We have provided all supporting data substantiating the “Tile Shadowing” effect of the lights and other perceived deficiencies.

Grazzini further requested a “written, detailed analysis of all areas which do not conform to the construction documents” so they could correct those areas. (R4, 53647, tab 30)

38. After receiving a copy of the foregoing Grazzini letter, Morrison responded to Mortenson stating that he was perplexed as to the need for a detailed analysis of areas not in compliance since those areas had been pointed out to Grazzini on several occasions. Moreover, Morrison pointed out that Mortenson had agreed that tile work was unacceptable. (R4, 53647, tab 28)

39. Alan Dale Berry (Berry) was one of the government’s Quality Assurance Representatives (QAR) during construction of the medical facility. Berry was the QAR primarily responsible for inspecting the tile work and his duties included assuring “that the finished tile work was aesthetically acceptable and that it was installed in a true and even plane, as required by Technical Specification (TS) 09300.” Berry rejected some of the tile for poor workmanship and cited recurring problems as including “tiles that were installed out-of-plane, giving the surface an uneven, rough appearance, and abrupt changes in grout color.” (R4, 53647, tab 154 at 1)

40. Consistent with contemporaneous documents, Berry recalled that Jerry Koenig (Koenig), Mortensons’s Quality Control Representative (QCR), agreed that the tile work was not good and did not present an appealing appearance (R4, 53647, tab 154 at 2).

41. The government determined that the maximum lippage acceptable would be 1/32", although Berry was neither involved in nor recalls how that number was calculated (*id.*)⁴ Berry described how he inspected after imposition of the 1/32" standard as follows:

Once we had established a standard, I would first make a visual inspection for acceptable appearance, and then I would measure those tile joints that were visually objectionable. I did this by first holding a small piece of metal 1/32 of an inch thick (that I had previously measured with a caliper) flat against the surface of a tile that was set back relative to the adjacent tile. While holding this shim with one hand, with my other hand I slid the end of a short straightedge resting of the face of the adjacent tile toward the shim. The lippage at these two tiles was more than 1/32 of an inch if the straightedge passed over the shim without touching. Only if the lippage exceeded 1/32 of an inch would I reject the joint. If the lippage were less than the standard, it would be accepted no matter how it looked. Joints were also accepted if they were lipped in excess of 1/32 of an inch but did not look bad.

(R4, 53647, tab 154 at 3)

42. Berry agrees with the Grazzini assertion that wall washer lighting emphasizes the uneven appearance caused by lippage and while most of the tile rejected for excessive lippage was installed on walls with soffit lighting, the first room Berry inspected and in which he found excessive lippage was the operating room mockup (2E136), which did not have soffit lighting. There were also others. (R4, 53647, tab 154 at 5-6)

43. Most of the rejected tile was removed and replaced by Grazzini, and generally, the tiling workmanship improved as construction progressed (R4, 53647, tab 154 at 6-7).

44. In November 1997 Grazzini retained Tom D. Lynch (Lynch), a ceramic tile consultant and manufacturer's representative, to render an opinion on the adequacy of the tile installation (R4, 53647, tab 149 at 4 (tr. 12-13)). Lynch visited the site on 10 and 11

⁴ Appellant surmises in its brief that the government may have applied the Ceramic Tile Institute (CTI) guideline for ceramic tile floors to Grazzini's wall tile work. The CTI guideline allowed a variation of 1/32" between individual floor tile. Apparently, this requirement exists to prevent tripping hazards by pedestrians, a hazard that does not apply to wall tiles. (App. br. 21)

December and issued a report to Grazzini dated 15 December 1997. His stated objective was to determine if the wall tile installed on the project met ANSI 137.1 with regard to warpage and thickness and to determine if the installation quality met ANSI 108.5 standards. (R4, 53647, tab 149, ex. 610 at 1). Consistent with Holmes (see finding 52), Lynch found that no lippage tolerance for ceramic tile installations is listed anywhere in ANSI or in the TCA Handbook (*id.*, ex. P1 at 1)⁵

45. Lynch included the following proviso to his report with respect to his inspection:

It is impossible to determine if a projecting or protruding tile meets ANSI 137.1 standards for thickness unless it is removed and measured. It is equally impossible to determine if that same tile is out of compliance due to inadequate beat-in during installation unless the tile is removed. Warpage determinations can, however, be measured and evaluated accurately without removing the tile.

(*Id.*)

Since Lynch did not remove any tile, he could not have determined if the lippage was due to tile thickness, inadequate beat-in or a faulty substrate.

46. Interpreting paragraph 6.1.1.2.7 of ANSI 137.1, which set forth the tolerance for warpage in ceramic tile, Lynch calculated that the maximum range of acceptability for warpage in the tile in question, is .044 inches, or slightly less than 3/64". Lynch described his observations as follows:

Wall tile in 38 rooms were inspected. In rooms where the Corps of Engineers inspectors had marked tiles for rejection with a black marker, each of those tiles was checked

⁵ Lynch points out that lippage is referred to in a subsequent edition of the TCA Handbook as follows:

Lippage is a condition where one edge is higher than an adjacent tile, giving the finished surface an uneven appearance. This condition is inherent in all installation methods and may also be unavoidable due to the tile tolerances, in accordance with ANSI A137.1. (R4, 53647, tab 149, ex. P1 and P3)

with the micrometer. In addition, many more tiles were scanned with the range straight edge and any tiles suspected to be out of compliance were checked with the micrometer. In unmarked rooms, all walls were visually scanned, suspect areas were further scanned with the range straight edge and if still suspect, were then measured with the micrometer. All tiles that were positively “Out Of Compliance” were marked with a yellow “X” indicating that they were to be removed and replaced. Minor warped tiles that were still within ANSI 137.1 guidelines were not counted or marked in any way. All defective tiles that were not due to excessive warpage were also marked for replacement.

(*Id.* at 2)

47. Lynch reports that he found 338 tiles out of compliance (due to excessive warpage), 7 tiles with defects, 102 tiles cracked due to structural substrate movement, 16 protruding tiles due to either variations in thickness or inadequate beat-in and 10 bottom rows of tiles broken by floor layers. Since only 16 tiles were defective due to possible thickness or inadequate beat-in, Lynch concluded that poor workmanship was not an issue in the installation. He also concluded, based on his observations and on his examination of over five boxes of tile, the warpage problem was one of isolated instances, rather than a commonplace occurrence. (*Id.* at 4)

48. Lynch testified that, while there is no industry standard with regard to lippage, there is a standard for warpage and thickness which directly reflect lippage. Lynch also expressed the opinion that at the time the contract was awarded, there was no industry standard which said lippage could not exceed 1/32” or, for that matter, there was no industry standard which said lippage could not exceed 5/64”. Based upon his review, the installation met the standards for warpage and thickness and therefore met the standard for lippage. (R4, 53647, tab 149, deposition at 17-18)

49. On 22 January 1998, Mortenson asked the Corps to confirm the government “position that any tile which exceeds the 1/32” lippage requirement is to be removed and replaced” (R4, 53647, tab 20).

50. The government and Mortenson continued to exchange communications reflecting their disagreement on the issue. The government consistently maintained that the tolerance for lippage was 1/32 of an inch. (*See*, R4, 53647, tabs 4-20)

51. On 6 April 1998, ACO Morrison confirmed discussions with David Peterson of Mortenson that the punch list for Pod A was revised by deleting general comments about workmanship and by deleting rooms where 2 or fewer tiles exceeded the lippage tolerance (R4, 53647, tab 11).

52. The record includes an affidavit by Andrew W. Holmes (Holmes). He was retained by the government to review and confirm or refute the report prepared by Robert Young. At the time of the submission of evidence Young was in failing health and was no longer available to consult with the government. The findings that follow relate to the portions of Holmes' affidavit we consider relevant, based upon his personal observations as opposed to that of Young.

53. According to Holmes –

The most common cause of excessive lippage is poor workmanship. Proper beat-in is essential to a quality ceramic wall tile installation. Beat-in should be done by covering several adjacent tiles with the appropriate sized beating block and gently, but firmly pounding the block with a rubber mallet so that all the tiles are uniformly seated in the bonding material. Judging by what I saw in the Composite Medical Facility rooms I went into with Mr. Berry, the mechanics who installed the tile did not use proper beat-in techniques.

(R4, 53647, tab 155 at 2)

54. Holmes believes some lippage is unavoidable in any tile installation, but that it should not be so excessive as to make the installation aesthetically unappealing. Other possible causes of lippage cited by Holmes were warpage of the tiles and variations in thickness. Wedging variations, which refer to the degree to which a tile may be out of square, does not, in Holmes' view, have an affect on lippage. (*Id.* at 3)

55. Holmes cited paragraph 3.3.7 of ANSI A108.1 for the requirement that the tile installer “[m]ake corners of all tile flush and level with corners of adjacent tile, with due allowance to tolerances for tile as specified in ANSI A-137.1” and stated the opinion that the ANSI standards do not express a standard for lippage and does not define “due allowance” to tile tolerances. Holmes did not believe it appropriate to add the tolerances together to arrive at a standard for lippage because the ANSI standard does not direct the installer to do so. Holmes further opined that 1/32 of an inch was a reasonable measurement for maximum allowable lippage. (*Id.*)

56. Based upon his observations and his review of the QAR reports as to rejected tiles, Holmes expressed the opinion that it was poor workmanship and not allowable tolerances for warpage and thickness that was responsible for the excessive lippage (*id.* at 4).

57. On 1 February 2001, Mortenson submitted a claim on behalf of Grazzini requesting \$452,037 (including Mortenson mark-up) for over-inspection of the ceramic tile on the project. Generally Mortenson on behalf of Grazzini claimed that the direction to replace tile exceeding 1/32" lippage exceeded contract requirements and that the government improperly required grout color corrections when the color variations were due to the government's failure to provide potable water for the project. (R4, 53647, tab 3, cover letter and claim at 2-3). The issue of grout color variations is discussed later in this decision. On 28 September 2001, the contracting officer denied the claim (R4, 53647, tab 2); the denial was timely appealed to the Board on 26 December 2001, and was docketed as ASBCA No. 53647 on 27 December 2001.

DECISION – ASBCA No. 53647 - Lippage

We have long held that the government bears the burden of proving that rejected work did not conform to contract requirements. *Southwest Welding & Manufacturing Co. v. United States*, 413 F.2d 1167 (Ct. Cl. 1969); *Gaffny Corp.*, ASBCA Nos. 37639, *et al.*, 94-1 BCA ¶ 26,522; *D.E.W., Inc.*, ASBCA No. 37232, 93-1 BCA ¶ 25,444. If the rejection was improper, appellant is entitled to an equitable adjustment under the Changes clause. *D.E.W.*, 93-1 BCA ¶ 25,444.

Lippage is a condition wherein two adjacent ceramic tiles are not flush with each other. With respect to lippage, the question to be answered is what the contract required. That is, was the government entitled to require compliance with the 1/32" standard?

We start with a discussion of express contract requirements to determine if a measurable standard was specified in the drawings and specifications for the lippage condition for which tile was rejected. Paragraph 3.2 of the specification required that tile be installed "with the respective surfaces in true even planes to the elevations and grades shown." (Finding 4) ANSI 108.5 called for inspection of the surface to receive the tile prior to installation and required that such surface should be "plumb, level and true with square corners," although the surface was allowed a tolerance such that it could deviate from plumb, level and true to the extent of 1/4" in 8 feet for a Portland cement mortar bed and 1/8" in 8 feet for dry set Portland cement mortar. ANSI 108.5 further provided that the corners of all tile were to be flush with corners of adjacent tile "with due allowance to tolerances for tile as specified in ANSI A137.1". (Finding 6)

Thus, while the word lippage was not used in the contract, the concept was in fact considered in that the contract contemplated a tolerance for tile installation by considering the tolerances for tile specified in ANSI 137.1. That is, perfectly true and level tiles were acknowledged by the contract not to be the standard for acceptance.

Paragraph 6.1.1.2.4 of ANSI 137.1 allowed a maximum range of thickness of tile in a specified sample size of .031 inch. In addition, tolerances were specified for facial dimensions (6.1.1.2.5), for wedging (6.1.1.2.8) and for warpage (6.1.1.2.7). (Finding 10) We are unable to conclude that the tolerances for one or more of the possible tile conditions should be added together to arrive at a tolerance against which to measure contract compliance. We are also unable to conclude otherwise. The parties have simply not presented sufficient credible evidence on this point to allow us to use this technique to answer the question before us. We look to other facts to resolve the issue.

Appellant has argued that the contract required lippage to meet a tolerance of $5/64$ of an inch and that tolerance is computed by adding together tolerances for warpage and tile thickness. None of the relevant contract documents, however, specifically establish such a composite tolerance for lippage. And we rejected, *supra*, the concept that specification tolerances can be “stacked” to answer the issue before us. Moreover, we have no evidence as to whether the tiles met this $5/64$ ” standard, for no one, including appellant or its expert ever measured tiles to see if they met this standard. Appellant has not pointed to contemporaneous evidence that it was attempting to perform to this standard.

We are persuaded by Young’s report that the lippage was due to inadequate beat-in and uneven mortar application and not primarily due to tile thickness and warpage. Lynch discounts those possibilities and his investigation failed to take the necessary steps to determine if the lippage was due to something other than warpage. We are also persuaded by the conclusions of Young and Holmes that $1/32$ ” is the industry standard for lippage. The contract required the work to be performed in a workmanlike manner and in the absence of a specific and quantifiable standard in the contract we look to industry standards.

We reject appellant’s argument that tile rejections were due to exaggerated deficiencies resulting from wall washer lighting since the tile work was deficient in areas other than those rooms with the wall washer lighting.

Accordingly, appellant’s claim for an equitable adjustment for the extra work in replacing tile which exceeded $1/32$ ” of lippage is denied.

ASBCA No. 53647 – Grout Color

58. During the same general period that lippage issues arose with respect to wall tile, the government also required Grazzini to repair variations in grout color, contending Grazzini's batches were inconsistent. (Compl. & answer, ¶¶ 17)

59. Paragraph 2.4.5, Color, of the tile specification required the contractor to “[m]atch grout colors noted in Room Finish Legend Remarks (R4, tab 51 at 5). Neither party has cited this provision and we find no other grout color provisions in the specification.

60. In a meeting on 25 September 1996, the government advised Mortenson and Grazzini that there was a visible variation in the grout color to which Mortenson and Grazzini responded that they would check with the manufacturer and advise. (R4, 53647, tab 99)

61. During his inspection on 11 October 1996, Young observed abrupt changes in grout color in Room 2E136 and in most rooms where tile had been grouted (R4, 53647, tab 63 at 1).

62. Young's 14 October 1996 report concluded with respect to grout color as follows:

2. A certain amount of variation in colored grout is unavoidable due to drying conditions, amount of water used for clean up and various other jobsite conditions. The variations found on this project are sharp definite changes that appear to be caused by the materials not by workmanship.

(*Id.* at 3) Young also recommended the removal of grout that changes color abruptly to be replaced with matching color grout (*id.* at 4).

63. Berry, the government QAR, rejected some of the tile in areas he inspected for abrupt changes in grout color (R4, 53647, tab 154 at 1).

65. Paragraph 2.3 of the tile specification provides that “water shall be potable (R4, 53647, tab 51). Grazzini was aware, prior to 16 July 1997, that the only clean pure water for mixing the tile grout came from the fire hydrants outside the building, and the evidence strongly suggests that is what was used for mixing the grout. In a 16 July 1997

memorandum, Mortenson (Jerry Koenig) asked Grazzini (Earl Anderson) what Grazzini was using as its water source for mixing of the grout. Anderson forwarded the memo to Greg Grazzini with the following message:

This came in my box and I think maybe you might want to answer by letter. The only clean, pure water comes out of the fire hydrants outside which is what they were told. They also asked Jerry, Howie, & Ron who also told them the hydrants. I think Jerry is fishing for an out for the shading.

(R4, 53647, tab 114)

64. Lynch observed that the water in many of the sinks and nearly all of the lavatories was a dark brown color and speculated that this “was probably the cause of the grout discoloration experienced earlier on the job” (*id.*). We give no weight to this speculation because hydrant water was identified as the water source.

66. Grazzini ultimately asserted the position that the variation in grout color was due to the high iron content in the water and in support of that position offered the opinion of John Kehoe, Technical Service Consultant to Mapei Corporation. Kehoe relied on information provided to him by Lynch that “he had observed high concentrations of iron in the water in the sinks and stools of the project.” Kehoe opined that concentrations “of iron, salt or other minerals in the water can cause shading variations of the grout. Generally, water that will stain a sink is a likely source of color variation in grout.” (R4, 53647, tab 20)

67. Mortenson’s 1 February 2001 claim on behalf of Grazzini includes amounts for improperly requiring grout color corrections when such color variations were due to the government’s failure to provide potable water for the project.

68. Government expert Holmes also expressed an opinion about the issue of grout discoloration. He attributes abrupt changes in grout color to several possible causes including defects in the grout itself, inconsistent ratios in water to dry grout, changing grout batches in the middle of a wall, stopping and starting grouting on walls and improper mixing. If the water used in mixing included rust, Holmes would expect the rust in the water to discolor the grout, “but in a uniform fashion rather than the sudden changes” he observed. (R4, 53647, tab 155 at 5)

Decision – ASBCA No. 53647 - Grout Color

The government rejected some of the tile work when the grout color varied and required it to be regouted. The specification required that grout colors match those

colors specified in the room legends. We are persuaded by the evidence that there were abrupt changes in grout color on the same wall as a basis for rejection of appellant's claim that the discoloration was due to rusty water supplied by the government. If the water was rusty, we are persuaded that it would have rendered all tile consistently discolored, not abruptly different. The government has met its burden of showing it properly rejected grout discolorations. Accordingly, we deny the claim for rejection of tile due to grout color variations.

ASBCA No. 54111 – Concrete Fill and Ceramic Tile Floors

69. Paragraph 3.4.6 (Concrete Fill) of section 09300 of the contract specifications provided as follows:

Concrete fill shall be composed by volume of 1 part [P]ortland cement to 3 parts fine aggregate to 4 parts coarse aggregate, and mixed with water to as dry a consistency as practicable. The fill shall be spread, tamped, and screeded to a true plane, and pitched to drains or leveled as shown
Reinforced concrete fill shall be provided under the setting-bed where the distance between the under-floor surface and the finished tile floor surface is 2 inches or greater, and shall be of such thickness that the mortar setting-bed to be placed over the concrete fill shall be not less than 3/4 inch nor more than 1-1/4 inches thick at any point.

(Emphasis added) (R4, 54111, tab 21)

70. Contract Drawing No. A8.503 depicts door details. Detail 50, threshold at ceramic tile, and Detail 54, ceramic tile at access floor, both show ceramic tile installed over 1 1/4 inch to 2 inch maximum reinforced latex Portland cement mortar bed. Neither detail mentioned concrete fill as a component of the installation depicted nor cross referenced any structural drawings. (R4, 54111, tab 24)

71. Contract Drawing No. A8.603 depicts interior details. Detail 18, ceramic tile base detail, Detail 19, sill detail, and Detail 20, sill detail, all show ceramic tile installed over a reinforced latex Portland cement mortar bed. None of the details mentioned concrete fill as a component of the installation depicted nor cross referenced any structural drawings. (R4, 54111, tab 25)

72. Contract Drawing No. A2.218, a first level floor plan, depicts a whirlpool room and cross references Details 11, 12 and 13 from drawing reference number A8.606 (R4, 54111, tab 41). Details 11, 12 and 13, all ceramic tile details, show concrete fill

below the ceramic tile sloping toward the floor drain, none of which show a 5 1/4 inch depression (R4, 54111, tab 25).

73. On the other hand, the same area depicted on the structural drawings (Drawing No. S2.15, Sheet 1-98) does in fact show a 5 1/4 inch depression (R4, 54111, tab 63). In fact, the structural plans for the project show numerous 5 1/4 inch depressions in the concrete floor slabs with no indication of what material should be used to raise them to the level necessary to install finished flooring.

74. The general layout of the building was provided in varying degrees of detail in several contract drawings (R4, 54111, tabs 26-30). The architectural drawings had corresponding drawings among the structural drawings (R4, 54111, tabs 59-67). None of the architectural or structural drawings depicted what type of finish the rooms were to have. For information regarding which rooms required ceramic tile finish, the contractor had to refer to the Room Finish Schedule (R4, tab 22). Each room was included on its respective Room Finish Schedule. The schedule identified what finish was to be provided for the floor, base, walls and ceiling of each room. (R4, 54111, tab 22) "CT" indicated that the finish was to be ceramic tile.

75. Contract Drawing No. S0.01, General Criteria, shows abbreviations, symbols, materials and strengths, and design criteria. Under the "Symbols and Legends" column, about halfway down the page, there is a symbol given for slab depressions. (R4, 54111, tab 58)

76. Contract Drawing No. S2.11, First Level Area A Foundation Plan, depicts the foundation plan for the first level of the northwest corner of the medical facility. Between gridlines B and C there are three shaded areas bearing the symbol for slab depressions. At these symbols the number "5 1/4'" appears. Three such shaded areas with the same symbols appear between Gridlines E and F. The largest of these three has a keynote symbol for keynote 5.09 with "TYP" under it, meaning "typical." Six such areas are depicted between Gridlines F and G. (R4, 54111, tab 59)

77. General Note 9 on Drawing No. S2.11 provides:

Slab Depressions:

- A. At all depressed floor slabs, provide concrete curbs under all partition walls. TOC [top of concrete] of the curbs to be equal to that of the finished floor.
- B. At all rooms with depressed floor slabs where the door swings out into the corridor continue the depressed area to the centerline of the door (see architectural sill details).

(*Id.*, tab 23)

78. On Drawing No. S2.11, Keynote 3.07 says, “Depression in concrete slab on grade. Coordinate size and location with Architectural dimension plans.” On the same drawing, Keynote 5.09 says “Depression in concrete slab. Coordinate size and location with Architectural dimension plans.” (*Id.*)

79. Contract Drawing No. S2.12, First Level Area ‘B’ Foundation/Framing Plan, depicts the foundation plan for Area B of the hospital. Between gridlines E and F there is a shaded area bearing the symbol for slab depressions with “5 1/4” above it. Keynote 3.07 is pointing to that shaded area and on Drawing No. S2.12, Keynote No. 3.07 says, “Depression in concrete slab on grade. Coordinate size and location with Architectural dimension plans.” (R4, 54111, tab 60)

80. General Note 8 on Drawing No. S2.12 provides:

Slab Depressions:

- A. At all depressed floor slabs, provide concrete curbs under all partition walls. TOC of the curbs to be equal to that of the finished floor.
- B. At all rooms with depressed floor slabs where the door swings out into the corridor continue the depressed area to the centerline of the door (see architectural sill details).

(*Id.*)

81. Drawing No. S2.13, First Level Area ‘C’ Framing Plan depicts the framing plan for Area C of the hospital. Between Gridlines B and C there are three shaded areas bearing the symbol for slab depressions with 5 1/4” above it. Between Gridlines E and F there are three such shaded areas. The top, and the largest one has a symbol for Keynote No. 5.09 pointing to it with the letters “TYP” depicting “typical” under it. Keynote No. 5.09 provides, “Depression in concrete slab. Coordinate size and location with Architectural drawings.” (R4, 54111, tab 61)

82. General Note 6 on Drawing No. S2.13 provides:

Slab Depressions:

- A. At all depressed floor slabs, provide concrete curbs under all partition walls. TOC of the curbs to be equal to that of the finished floor.
- B. At all rooms with depressed floor slabs where the door swings out into the corridor continue the depressed area to the centerline of the door (see architectural sill details).

(*Id.*)

83. Drawing No. S2.14, First Level Area 'D' Foundation/Framing Plan provides the foundation and framing plan for Area D. Between Gridlines H and J there is a large shaded area with symbols for slab depression with a smaller, more lightly shaded area within it. The smaller area has a depression symbol that has 5 1/4" on it. Two similar shaded areas with depression symbols appear at Gridline K. At Gridline L, in the middle of the page, there is another shaded area with depression symbol and 5 1/4" on it. It also has the symbol for Keynote 3.07 with "TYP" under it, denoting "typical." Keynote No. 3.07 provides, "Depression in concrete slab on grade. Coordinate size and location with architectural dimensions." (R4, 54111, tab 62)

84. There are 8 more such shaded areas on Drawing No. S2.14 (*id.*).

85. General Note 7 on Drawing No. S2.14 provides:

Slab Depressions:

- A. At all depressed floor slabs, provide concrete curbs under all partition walls. TOC of the curbs to be equal to that of the finished floor.
- B. At all rooms with depressed floor slabs where the door swings out into the corridor continue the depressed area to the centerline of the door (see architectural sill details).

(*Id.*)

86. Contract Drawing No. S2.15, First Level Area 'E' Foundation/Framing Plan, provides the foundation and framing plan for Area E. Between Gridlines G and K there are 7 shaded areas bearing the symbol for depressions in the slab with 5 1/4" on the symbol (there is also a much larger area indicated at 12"). At the top of the page near Gridline J, the depressed area has a keynote symbol for Keynote No. 3.07 with "TYP"

under it. At the bottom of the page, also near Gridline J, the shaded area refers to Keynote No. 5.09 with “TYP” written under it. (R4, 54111, tab 63)

87. Keynote No. 3.07 on Drawing No. S2.15 provides: “Depression in concrete slab on grade. Coordinate size and location with Architectural dimension plans” (*id.*).

88. Keynote 5.09 on Drawing No. S2.15 provides: “Depression in concrete slab on grade. Coordinate size and location with Architectural dimension plans” (*id.*).

89. There are 5 more shaded areas between Gridlines K and N on Drawing No. S2.15 that indicate depressions in the slab (*id.*).

90. General Note 6 of Drawing No. S2.15 states:

Slab Depressions:

- A. At all depressed floor slabs, provide concrete curbs under all partition walls. TOC of the curbs to be equal to that of the finished floor.
- B. At all rooms with depressed floor slabs where the door swings out into the corridor continue the depressed area to the centerline of the door. (See Architectural Sill Details.)

(*Id.*)

91. Contract Drawing Nos. S2.16, S2.17 S2.18 and S2.19 all depict numerous shaded areas indicating the existence of depressions in the concrete slab and directing the contractor to refer to the architectural drawings for further detail (R4, 54111, tabs 64-67).

92. Details for installing the finish tile were found on Contract Drawing No. A8.603, Interior Details. Detail 11 on that drawing depicts ceramic tile installation where the wall meets the floor. A note at the bottom of that detail reads: “2 hour rated fireproofing per UL D763 or equal at recessed slab.” (R4, 54111, tab 25)

93. Detail 12 on Drawing No. A8.603 depicts ceramic tile installation at drains. A note at the bottom of that detail reads: “2 hour rated fireproofing per UL D763 or equal at recessed slab.” (*Id.*)

94. Detail 13 on Drawing No. A8.603 depicts ceramic tile installation at floors sloping to drains. A note at the bottom of that detail reads: “2 hour rated fireproofing per UL D763 or equal at all recessed slabs.” (*Id.*)

95. Detail 14 on Drawing No. A8.603 depicts ceramic tile installation at thresholds. A note at the bottom of that detail reads: “2 hour rated fireproofing per UL D763 or equal at all recessed slabs.” (*Id.*)

96. Detail 15 on Drawing No. A8.603 depicts recessed floor at quarry tile. That detail refers the contractor to a structural provision. (*Id.*)

97. Detail 18 on Drawing No. A8.603 depicts installation of the ceramic tile base (*id.*).

98. On 29 February 1996, Mortenson submitted Request for Information (RFI) No. 1734 to the government stating:

Please reference detail 18/A8.603. This tile detail shows the application of the ceramic floor tile in the slab on grade areas of the building (i.e. lower level, part of 1st level South of 20.2 line, and 1st level North of 12 line). The recesses in these areas are detailed and have been constructed from the structural drawings as 5 1/4” deep. Detail 18/A8.603 calls out this recess to receive a reinforced latex Portland Cement mortar bed. The Tile Council of America (TCA F112), referenced in T.S. 09300 and 18/A8603, specifies this mortar bed to be a nominal 1 1/4” thick for a ceramic tile setting bed. Details 19/A8.603 and 20/A8.603 specifically call out this mortar bed to be a minimum of 2” thick.

Please provide direction to correct this document discrepancy.

(R4, 54111, tab 13)

99. On the same day, Mortenson submitted RFI No. 1737 as follows:

Please reference detail 15/A8.603. This tile detail shows the application of the quarry floor tile in the slab on grade areas of the building (i.e. lower level South of 18 line kitchen area). This detail references the structural drawings which call out a 5 1/4” deep recess. These recesses have been constructed accordingly. Detail 15/A8.603 also calls out this recess to receive a reinforced setting bed. The Tile Council of America (TCA F121), referenced in T.S. 09300 and detail 17/A8.603 specifically call out this mortar bed to be a maximum of 2” thick.

Please provide direction to correct this document discrepancy.

(R4, 54111, tab 14)

100. The government answered both RFIs on 1 March 1996. As to RFI 1734, the government replied:

Do not understand what you consider to be a discrepancy. See TS 09300.3.4.6 which requires a reinforced concrete fill to be provided under the setting bed where the distance between the under floor surface and the finished tile floor surface is 2" or greater and to be of such thickness that the mortar setting bed is 3/4" to 1-1/4" thick. The concrete fill thickness requirement is hereby revised to allow for mortar setting bed thickness of 1-1/4" to 2".⁶

(R4, 54111, tab 13)

101. As to RFI No. 1737, the government replied:

TS09300.3.4.6 requires a reinforced concrete fill to be provided under the setting bed where the distance between the under floor surface and the finished tile floor surface is 2" or greater and to be of such thickness that the mortar setting bed is 3/4" to 1-1/4" thick. The concrete fill thickness requirement is hereby revised to allow for mortar setting bed thickness of 1-1/4" to 2" to agree with TCA procedure F-121.

(R4, 54111, tab 14)

102. On 4 March 1996, Mortenson replied to a 28 February 1996 letter from Grazzini (which is not in the record) stating in pertinent part:

We do not agree with your interpretation of the architectural drawings regarding concrete fill at the slab on metal decks (Details 11, 12, 13, and 14 on A8.603). The specifications, architectural drawings, and your subcontract scope clearly define this as your work. It is also our belief that Grazzini Brothers and Company researched the structural documents

⁶ Increasing the allowable thickness of the mortar bed setting allows the contractor to use less concrete fill and more mortar bed (gov't brief, proposed finding 34) and is not at issue in this appeal.

to verify substrate elevations as any other competent tile contractor would have.

As we previously discussed, we have revised and submitted your RFI regarding your concerns on the setting bed depth at slab on grade recesses (Details 15, 17, 18, 19, and 20 on A8.603). Please see the attached COE response to RFI 1734 and 1737.

In conclusion, it is our position that the concrete fill in both slab on deck and slab on grade areas are the responsibility of Grazzini and [hereby] direct you to immediately commence with this work. If Grazzini Brothers believes the responses to RFIs 1734 and 1737 to have associated additional costs, please notify Mortenson in writing by March 13, 1996.

(R4, 54111, tab 12)

103. On 15 March 1996, on behalf of Grazzini, Mortenson submitted RFI No. 1776 asking the government to confirm as follows:

Based on review of the floor plans, it is our understanding that details 11/A8.603, 12/A8.603, & 13/A8.603 only apply to whirlpool room 1E181 on sheet A2.218.

This would lead us to apply details 15/A8.603 & 17-20/A8.603 to all other locations requiring ceramic or quarry tile. However, we are unable to ascertain locations or plan references for these details. It is also our interpretation that areas other than whirlpool room 1E181 would only require membrane waterproofing to run to the top of the cement mortarbed as indicated in details 17 & 18 on A8.603.^[7]

(R4, 54111, tab 11)

104. The government replied on 29 March 1996 as follows:

1. Do not concur. Details 11-, 12-, and 13/A8.603 apply to conditions which include locations having the requirement for

⁷ The last sentence of the quoted text relates to ASBCA No. 53975, waterproof membrane.

concrete fill. Refer to Paragraph 3.4.6 of Specification Section 09300.

2. Details 15-, 17-, 18-, 19-, and 20/A8.603 apply as their titles indicate and to the conditions they illustrate. They are complimentary to and not mutually exclusive of the details referenced in Item No. 1 above.

3. The membrane waterproofing required at all wet areas shall extend 1'-0" up the wall as shown in Detail 11/A8.603 and shall be flashed behind the wall membrane where it occurs.

(Id.)

105. On 26 April 1996, Mortenson requested a change order (Change Request No. 0320) in an amount to be determined later from the government as follows:

The response to RFI 1737 requires that concrete fill be provided at all areas where the floor recess is greater than 2". Details for tile installation at slab on grade areas provide no indication that concrete fill will be required. Structural details clearly call for tile recessions in the SOG areas to be 5-1/4" deep.

(R4, 54111, tab 10)

106. On 7 August 1996, Grazzini advised Mortenson that the impact of implementing government response number 1 to RFI 1776 was \$1,716,176.77 and 1,958 man days, stating that Details "11, 12, 13/A8.603 are exclusive to Room 1E181, whirlpool, therefore, we are requesting additional compensation" (R4, 54111, tab 7). The impact was amended on 23 October 1996 to \$1,086,545.94 and 1,040 man days (R4, 54111, tab 6).

107. On 1 November 1996, Mortenson revised Change Request No. 0320 by requesting a change order in the amount of \$1,337,359 for additional concrete fill due to response number 1 to RFI 1776 (R4, 54111, tab 5). The government denied that request on 19 November 1996, stating:

Technical Specification Section 09300, Paragraph 3.4.6, requires concrete fill under the tile setting-bed at locations where the distance between the under floor surface

and the finished tile floor surface is 2” or greater. As stated in the response to RFI 1776, Details 11, 12, & 13/A8.603 are not exclusive to Room 1E181. Details 11, 12, & 13/A8.603, and other details in the contract drawings, together with the contract specifications, clearly state the requirement for concrete fill under the tile setting beds. The depth of the depressions for the areas to receive tile are clearly shown on the structural drawings and have not been changed. Therefore, your request for additional compensation is denied; no contract modification will be issued.

(R4, tab 4)

108. On 2 July 2002, Mortenson filed a certified claim seeking an equitable adjustment in the amount of \$305,876 for “additional costs incurred as a result of the Government requiring the installation of concrete fill at the ceramic tile areas” with such work consisting “of placing concrete fill, with reinforcing, in numerous 5 ¼” depressions in the floor slabs where ceramic tile is installed.” The claim was received by the contracting officer on 3 July 2002. (R4, 54111, tab 3)

109. The contracting officer denied the claim in a final decision dated 25 November 2002 (R4, 54111, tab 1). A timely appeal was made to the Board and was docketed as ASBCA No. 54111. (R4, 54111, tab 2)

110. Gregory Grazzini was vice president of Grazzini and was project manager for the job in question. He described the bidding process in his declaration. According to Mr. Grazzini, they used only the specifications and the architectural plans. Grazzini did not use the structural drawings to bid the work to Mortenson. Grazzini interpreted the specifications and the architectural drawings during the bid process as requiring concrete fill only in the whirlpool room 1E181 because the only architectural plan reference to concrete fill was in that room on drawing A2.218 which cross referenced Details 11, 12 and 13/A8.603. (App. supp R4, 54111, tab 1)

111. There is no evidence that Mortenson relied on Grazzini’s interpretation or used Grazzini’s bid in preparing its own bid to the government. In fact, Mortenson did not agree with that interpretation (see finding 102).

DECISION – ASBCA NO. 54111, CONCRETE FILL

A contract is ambiguous if it is susceptible to more than one reasonable interpretation. *Sun Shipbuilding & Dry Dock Co. v. United States*, 183 Ct. Cl. 358, 393 F.2d 807, 815 (1968). A contractor must seek clarification of a patent ambiguity prior to

submitting its bid in order to recover. *Froeschle Sons, Inc. v. United States*, 891 F.2d 270, 273 (Fed. Cir. 1989). Moreover, a patent ambiguity must be blatant and significant rather than subtle, hidden or minor. *S.O.G. of Arkansas v. United States*, 212 Ct. Cl. 125, 546 F.2d 367, 370 (1976). Where an ambiguity is latent, the contractor has the burden of proving that it relied on its present interpretation in preparing its bid. *Fruin-Colnon Corp. v. United States*, 912 F.2d 1426, 1430, 1432 (Fed. Cir. 1990). We stated in *Centex Construction Company, Inc.*, ASBCA Nos. 51906, 51908, 03-2 BCA ¶ 32,379, *aff'd*, *Centex Constr. Co. v. Harvey*, 122 Fed. Appx. 512 (Fed. Cir. 2005) that:

A contractor pursuing recovery based upon its interpretation of an ambiguous contract must show reliance on that interpretation in submitting its bid. *Lear Siegler Management Services Corp. v. United States*, 867 F.2d 600, 603-04 (Fed. Cir. 1989). Moreover, where a contractor shows it used a subcontractor's bid and hence the subcontractor's interpretation in preparing its bid to the Government, the subcontractor's reliance can be imputed to the contractor. *Froeschle Sons, Inc. v. United States*, 891 F.2d 270, 272 (Fed. Cir. 1989)

Appellant argues that the contract is ambiguous as to the installation of concrete fill rendering them defective, that the ambiguity is latent and that such latent ambiguity must be construed against the government as drafter of the documents.

The government on the other hand argues that the contract requirements for concrete fill are neither defective nor ambiguous. Moreover, the government argues, even if the contract is ambiguous and appellant's interpretation is reasonable, appellant has failed to demonstrate reliance on its interpretation at the time it bid the contract.

By its own admission, Mortenson bases its claim on its subcontract with Grazzini. Grazzini also concedes that in preparing its subcontract bid to Mortenson, it consulted only the specification and the architectural plans, not the structural plans. (*See app. br.*, at 3, 4, 6) Thus, the "ambiguity" stems from a reading of the contract that did not consider the structural plans.

Appellant would have us rule that it was only required to provide concrete fill at the whirlpool room. Such an interpretation would have us ignore and render meaningless the requirement for concrete fill in the specification, the numerous references to slab depressions in the structural drawings and several notes referring to slab depressions in the architectural drawings.

The specifications require concrete fill to be provided when the distance between the under floor surface and the finished tile floor surface is 2 inches or more. The slab depressions shown throughout the structural drawings represent distances that are 2 inches or more and thus require the installation of concrete fill. While Grazzini did not refer to the structural drawings when preparing its bid to Mortenson, such failure is not due to government fault or neglect. The government is not required to write or organize the contract specifications and drawings in a way that separates work among the various trades. *Gall Landau Young Constr. Co., Inc.*, ASBCA No. 21549, 77-1 BCA ¶ 12,515. Nor is the government required to cross reference drawings for the subcontractors convenience or to highlight requirements subcontractors may fail to reflect. *David Boland, Inc.*, ASBCA No. 51259, 01-2 BCA ¶ 31,423.

There is no ambiguity as to the concrete fill requirement. The government interpretation of the requirements is the only reasonable one. Even if there were a latent ambiguity, there is no showing of reliance by Mortenson on its proffered interpretation or that Mortenson relied on the Grazzini interpretation in preparing its bid to the government. The appeal is denied.

ASBCA No. 53975 – Waterproofing Membrane and Ceramic Tile Walls

112. Technical Specification section 09300 provides:

3.3 INSTALLATION OF WALL TILE

Wall tile shall be installed in accordance with the TCA-01, method W-221 for solid backing; and method W-241 for metal studs and as shown on drawings.

3.3.1 Plastic or Cured Mortar Bed

Tile shall be installed over a plastic mortar bed or a cured mortar bed at the option of the Contractor. Except for mortar beds on slabs on grade, a 4 mil polyethylene cleavage membrane, metal lath, and scratch coat shall also be installed. Plastic mortar bed, materials, and installation of tile shall conform to ANSI A108.1. Cured mortar bed and materials shall conform to ANSI A108.1. Dry-set mortar method of installing tile over a cured mortar bed shall conform to ANSI 108.5. Install a waterproofing membrane in place of the cleavage membrane where waterproofing is indicated. The waterproofing membrane shall comply with Section 07111 ELASTOMERIC MEMBRANE WATERPROOFING.

....

3.4 INSTALLATION OF FLOOR TILE

Floor tile shall be installed in accordance with TCA-01, method F111, on above grade and F112, on slabs on grade except use F114 with resinous gout. Use F121 in kitchen and toilet areas and other areas where waterproofing under mortar bed is indicated on drawings.

(R4, 54111, tab 21)

113. Drawing No. A8.603, Interior Details, includes Detail 11, a ceramic tile detail which depicts an installation where the wall meets the floor. A waterproofing membrane is shown as being installed on the floor above the concrete fill and running up the wall for a distance of one foot. (R4, tab 25)

114. Detail 12 on Drawing No. A8.603 depicts tile installation at a drain. Concrete fill is shown sloped to the drain with a waterproof membrane just above it also sloped to the drain. (*Id.*)

115. Detail 13 on Drawing No. A8.603 depicts a cross section of a ceramic tile floor with waterproof membrane sloped toward the drain. Detail 14 depicts a ceramic tile floor as it intersects with a door threshold. While the words “waterproof membrane” are not included on that detail, the symbol used on Details 11, 12 and 13 for said membrane is shown on Detail 14. (*Id.*)

116. Detail 17 on Drawing No. A8.603 depicts the installation where a quarry tile floor meets a ceramic tile wall and waterproof membrane is shown under the mortar bed. Detail 18 on the same drawing shows a ceramic tile base where the ceramic mosaic floor and cove meet with a ceramic mosaic tile base at a wall. The detail includes a note pointing to two lines under the reinforced mortar bed which states: “Replace cleavage membrane with waterproof membrane at the following space types, shower rooms, tub rooms, whirlpool rooms, & bathrooms.” (*Id.*)

117. Details 19 and 20 on Drawing No. A8.603 are sill details, the former depicting the method for installing the sill (marble threshold) between resilient flooring and ceramic tile flooring and the latter depicting sill installation between a ceramic tile floor and carpeting. Both details show waterproof membrane under the reinforced cement mortar bed. (*Id.*)

118. The Technical Specifications make no reference to extending the waterproof membrane one foot up adjacent walls. None of the TCA Handbook methods for installing tile specified in paragraphs 3.3 and 3.4 above speak to a requirement for waterproof membrane to extend one foot up walls adjacent to floors depicted. The only place in the contract where waterproof membrane on a wall is depicted is at Detail 11 on Drawing No. A8.603 (the ceramic tile detail which depicts the installation where the wall meets the floor) and Detail 11 is only cross referenced in the whirlpool room 1E181 on drawing A2.218 (see findings 72, 113). (R4, 54111, tabs 21 and 25)

119. On 15 March 1996, Mortenson on behalf of Grazzini, in RFI 1776, asked the government to confirm their interpretation that, other than whirlpool room 1E181, waterproofing membrane was only required to run to the top of the cement mortarbed as indicated on Details 17 and 18 on A8.603. The government replied that membrane waterproofing was required to extend one foot up the wall as shown in Detail 11 in all wet areas. (see findings 103-04) (R4, 54111, tab 11).

120. With respect to the third paragraph of the government's response (see finding 104), Grazzini advised Mortenson on 8 April 1996 that compliance would have a cost and schedule impact in amounts to be determined inasmuch as:

Detail 11/A8.603 is exclusive to Room 1E181, whirlpool,
therefore, we are requesting additional compensation

(R4, tab 11) Mortenson, in turn, requested a change order (Change Request No. 0319) from the government on 26 April 1996 based upon the additional waterproof membrane at walls as defined in the third paragraph of the government's response. (*Id.*)

121. On 26 April 1996, Mortenson, on behalf of itself and Grazzini, requested a change order in an amount to be determined for "[a]dditional waterproof membrane at walls as defined by Response #3 to RFI 1776 (R4, 54111, tab 11)

122. On 7 May 1996, Mortenson requested \$75,497 to perform Change Request No. 0319 (R4, 53975, tab 9). The ACO responded on 30 July 1996 disagreeing that additional costs were due for extending "the waterproofing membrane up the wall as shown on Detail 11/A8.603 and addressed by RFI-1776, Item 3". Morrison stated:

Contract Detail 11/A8.603 requires that the waterproofing membrane at ceramic tile floors be extended up the wall. This detail is typical for the waterproofing membrane at ceramic tile floors. At our meeting on July 9, 1996, there was a question as to whether or not this requirement applies to

quarry tile floors. The requirement to extend the waterproofing up the wall applies at ceramic tile floors only.

(R4, 53975, tab 7)

123. On 3 October 1996, Mortenson requested a final decision on its claim for additional costs to install membrane behind adjacent walls at all wet areas receiving ceramic tile floors (R4, 53975, tab 5). Mortenson withdrew this claim without prejudice on 6 March 1997 (R4, 53975, tab 4). On 17 June 2002, Mortenson resubmitted the claim, now certified in the amount of \$141,976. On 17 July, 2002, the contracting officer denied the claim. (R4, 53975, tab 1) The final decision was appealed to the Board on 8 October 2002 (R4, 53975, tab 2) and was docketed as ASBCA No. 53975.

DECISION - ASBCA No. 53975—Waterproof Membrane

With respect to its claim for additional waterproof membrane, appellant contends that:

The Plans require waterproofing membrane to extend one foot up the wall only in Room 1E181 – Whirlpool Room. The only place where the Plans show a one foot waterproof membrane extension is on Detail 11/A8.603, which is specific to Room 1E181 – Whirlpool Room. The Specifications make no mention of extending the waterproof membrane up the adjacent walls. As to where the one foot extension is required, the Plans are not ambiguous, but are very specific.

(App. br. at 9)

Because Detail 11 is only referenced on Drawing No. A2.218, appellant does not consider that detail to be typical such that it would apply wherever the circumstance depicted in the detail appears elsewhere in the drawings, that is, appellant says it only applies where it is referenced – in the whirlpool room (app. br. at 10).

Appellant secondarily argues that even if, *arguendo*, the government intended Detail 11 to be typical, the omission of such designation creates an ambiguity, and the ambiguity is latent, giving rise to entitlement to additional costs of installing waterproof membrane one foot up the walls in all wet areas (app. br. at 12-13).

On the other hand, the government contends that the contract requirements are not ambiguous because the interpretation espoused by appellant is unreasonable.

First, appellant argues that Detail 11/A8.603 only applies to the whirlpool room, room 1E181 because it is referenced only on Drawing A2.218 and is not labeled “typical”. There is absolutely nothing on the face of Drawing A8.603 that would lead the contractor to reasonably conclude that any of the details depicted thereon is limited to Room 1E181 or any other location. Reference on Drawing A2.218 to Details 11 through 20 does not limit the use of these details to room 1E181. Calling out a detail in one location does not preclude its use in other locations. Nor does the fact that a detail is not labeled “typical” relieve the contractor of complying with it wherever it is applicable. [*Centex Constr. Co. v. United States*, 49 Fed. Cl. 790, 794 (2001); *Quiller Constr. Co.*, ENGBCA 784 (1955)].

(Gov’t br. at 7)

With regard to wall tile, the specifications required the contractor to install waterproofing membrane in place of cleavage membrane “where waterproofing is indicated.” With regard to floor tile, the specifications called out the method of installation to be used from TCA-01 “in kitchen and toilet areas and other areas where waterproofing under mortar bed is indicated on the drawings. Thus, the specifications tell the contractor to look to the drawings for information on where to install waterproof membrane. On Drawing No. A8.603, waterproofing membrane is depicted on Details 11, 12, 13, 14, 17, 19 and 20. None of the details are labeled as “typical.” However, Details 11, 12 and 13 are specifically referred to in the whirlpool area on Drawing No. A.2.218. Only Detail 11 depicts membrane running up an adjacent wall. We conclude that Grazzini’s interpretation is the only reasonable one.

When a detail is designated typical, it is applicable wherever the same or similar conditions occur whether or not a specific drawing refers to the questioned work. *George Hyman Constr. Co.*, ASBCA Nos. 28504, 31946, 88-2 BCA ¶ 20,613 at 104,164. Here, however, the detail was not designated as typical. In *Kos Kam, Inc.* ASBCA No. 34681, 89-3 BCA ¶ 21,980, the specification called for soundproofing to one side of party walls separating individual apartments as indicated on the drawings. The construction detail for the installation of soundproofing was not labeled typical. There appellant argued that the specifications required soundboard only as indicated on the drawings, and thus it was required only where the detail for soundproofing was found. The Board held that the specifications require sound proofing as indicated on the drawings, and they were indicated where the detail appeared.

The situation here is similar. The details were not labeled as typical and Detail 11 was specifically referred to in only one location with no indication that it was typical or similar or required to be followed in other places. Accordingly, based upon *Kos Kam*, we find waterproofing membrane was required to be extended one foot up the wall only in the whirlpool area and, for other wet areas for which the government directed Mortenson to install the one foot extension, appellant is entitled to additional compensation. *See also, Centex Constr. Co., v. United States*, 49 Fed. Cl. 790, 794 (2001) (In distinguishing *Kos Kam*, the Court stated that “*Kos Kam* merely suggests that where the specifications refer to the drawings and there is either *no* indication in the drawings that a detail applies or, relatedly, indication that the detail applies in some places, but not in others, compensation is owed for incorporating the detail in places where the drawings did not so indicate.”)

Accordingly, ASBCA No. 53975 is sustained.

Summary

ASBCA No. 53647 (lippage and grout color) and ASBCA No. 54111 (concrete filler) are denied. ASBCA No. 53975 (waterproof membrane) is sustained and is remanded to the parties to resolve quantum.

Dated: 31 August 2006

RICHARD SHACKLEFORD
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

I concur

MARK N. STEMLER
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals

MARTIN J. HARTY
Administrative Judge
Acting Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 53647, 53975, 54111, Appeals of M.A. Mortenson Company, rendered in conformance with the Board's Charter.

Dated:

CATHERINE A. STANTON
Recorder, Armed Services
Board of Contract Appeals