ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
C. Pyramid Enterprises, Inc.	)	ASBCA Nos. 53626, 53627
	)	
Under Contract No. N62467-95-C-1018	)	

APPEARANCES FOR THE APPELLANT: James J. McCullough, Esq.
Steven A. Alerding, Esq.
Fried, Frank, Harris, Shriver & Jacobson
Washington, DC

APPEARANCES FOR THE GOVERNMENT: Fred A. Phelps, Esq.
Navy Chief Trial Attorney
John S. McMunn, Esq.
Senior Trial Attorney
Engineering Field Activity West
Daly City, CA

OPINION BY ADMINISTRATIVE JUDGE VAN BROEKHOVEN
PURSUANT TO RULE 12.3

Appellant timely appealed two final decisions of the contracting officer denying claims. In ASBCA No. 53626, appellant sought an equitable adjustment in the amount of $34,013 for alleged defective specification regarding the compressive strength of masonry units. In ASBCA No. 53627, appellant sought an equitable adjustment in the amount of $82,291 for alleged defective specifications regarding the truss system and an alleged conflict between the truss system portion of the specifications and the ductwork. Appellant elected to proceed under Board Rule 12.3 and Rule 11 in each of these appeals. We consolidate these appeals for decision. Only entitlement is before the Board.

FINDINGS OF FACT

1. The Government awarded Contract No. N62467-95-C-1018 to appellant on 16 September 1997 for the construction of a two-story replacement medical/dental clinic at the Naval Air Station, Key West, Florida (R4, tabs 1, 2). The contract price as modified through subsequent amendments was $14,852,218.00. The contract contained the contract clauses standard to construction contracts, including FAR 52.243-4, CHANGES (AUG 1987); FAR 52.236-3, SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984); and FAR 52.236-21, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (APR 1984), which provided in pertinent part:

> . . . 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. . . .

2. Section 01300, SUBMITTAL PROCEDURES, of the specifications, ¶ 1.3.1, provided that the contractor's quality control organization was responsible for reviewing and certifying that the submittals were in compliance with the contract requirements (R4, tab 1). Variations from the contract requirements required Government approval pursuant to the contract FAR 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION clause (R4, tab 1, § 01300, ¶ 1.3.4). Paragraph 1.4.5, § 01300, prescribed the format of Division 15 (*i.e.*, Mechanical) layout and fabrication shop drawings, including SD-04 drawings. Subparagraph 1.4.5.1. required the contractor to indicate in these drawings the proposed locations of piping, ductwork, equipment, and materials. Paragraph 1.6, SD-04 Drawings required submittals which graphically showed the relationship of various components of the work, schematic diagrams of the systems, details of fabrication, layout of the particular elements, connections, and other relational aspects of the work. The Submittal Register (Part A) portion of the contract specification immediately following § 01300, required that concrete unit strength test reports under § 04230 of the specifications were to be approved by the Government with architect/engineer (A/E) review, and roof truss drawings under § 05400 were also to be approved by the Government with A/E review. Ductwork drawings and design under § 15810 were required to be approved by the Government and reviewed by the A/E.

3. Section 04230 of the contract specifications, REINFORCED MASONRY, Part 1, ¶ 1.1 listed the references and publications that were a part of the specifications to the extent referenced and referred to in the text of the specifications (R4, tab 1). These included ACI 530.1 and ASTM C 90. Paragraph 1.2 SUBMITTALS, subparagraph 1.2.4.1 Unit Strength Method, provided:

> Compute compressive strength of masonry system "Unit Strength Method," ACI 530.1. Submit calculations and certifications of unit and mortar strength.

4. The contract specifications and drawings provided, in pertinent part, as follows:

> PART 2 PRODUCTS
>
> 2.1 CONCRETE MASONRY UNITS [CMU]
>
> 2.1.1 Hollow Load and Non-Load Bearing Units

ASTM C 90, Type II, lightweight fm' = 2,000 psi.
Nominal size as indicated on the drawings.

(R4, tab 1, § 04230 at 4) Paragraph 2.2.1, provided that the mortar was to be "ASTM C 270, Type S. Strength (f' m) as indicated." Note 3 on contract drawing 5334531, **CONCRETE MASONRY NOTES:** provided:

> CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90, TYPE 1 OR II AND BE MADE WITH LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY F' m, EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, SHALL BE 2000 PSI AT 28 DAYS.

(ASBCA No. 53626, ASR4, tab 21) The symbol, "f' m," describes the compressive strength of a masonry assemblage which includes masonry units and included blocks, mortar, and grout (ASBCA No. 53626, R4, tab 5; decls. of Andrew D. Stohs and John A. McCarthy).

5. Paragraph 1.6 of ACI 530.1 provided alternatives for compressive strength computations for masonry (ASBCA No. 53626, R4, tab 3). Paragraph 1.6.2 provided two unit strength methods for determining the compressive strength: one for clay masonry, and the other for concrete masonry. Each of these had tables indicating the compressive strength of masonry based on the compressive strength of clay or concrete masonry units and the type of mortar used in the construction. According to Table 1.6.2.2, the net area compressive strength of concrete masonry (f' m) of 2000 psi for Type S mortar, was 2800 psi.

6. The roof trusses required by the contract were described in specification § 05400, COLD-FORM METAL FRAMING/TRUSSES (R4, tab 1). The submittal requirements set forth in ¶ 1.2 of this section of the specification required appellant to submit (1) shop drawings for the design and erection of prefabricated roof trusses that showed the size, location, and connection details of all required bracing elements; (2) metal framing calculations to verify sizes, gages, and spacing of members and connections; and (3) calculations for the design of all roof truss members and connections. Paragraph 1.4 of § 05400 provided in pertinent part:

> 1.4 LOAD-BEARING COLD-FORM METAL FRAMING.
>
> Include top and bottom tracks, bracing, fastenings, and other accessories necessary for complete installation. Framing members shall have the structural properties indicated. Metal

> framing for all exterior soffits shall be designed to resist wind uplift requirements based on ASCE 7, wind velocity of 150 mph, positive and negative pressures of 80 psf. Where physical structural properties are not indicated, they shall be as necessary to withstand all imposed loads. . . .

Paragraph 2.1.1 of this section required "[s]tuds of 16 Gage (0.0598 Inch) and heavier." Paragraph 2.2 of this section of the specification provided:

> 2.2 ROOF TRUSS MEMBERS
>
> 2.2.1 Truss chord and web members shall be made of studs and joists of 16 gage (0.0598 inch) and heavier; galvanized (G90); ASTM A 446/A 446M, Grade D (50 ksi).

7. Paragraph 1.4.2 of § 15810 of the specifications required appellant to submit drawings indicating the ductwork system and accessories for approval (R4, tab 1). This required the submission of dimensional layout and fabrication drawings showing both the accurately scaled ductwork and its relation to the space enclosure.

8. The contract drawings, S4-1-S4.6 and M5.1-M5.2, depicted the roof truss profiles and indicated that the ductwork could be accommodated without conflict (ASBCA No. 53627, R4, tab 14; ASR4, tab 16). Attachment D to Amendment No. 0003 to the solicitation for the instant contract incorporated into the contract the minutes of the pre-bid conference held on 23 April 1997, which minutes included questions and answers (R4, tab 1, amendment No. 0003, attach. D). The Government architect/engineer gave a brief description of the project by discipline, which included a description of the structural requirements of the contract. The building structural system was described as the roof supported by a galvanized cold form truss system that was to be a lightweight system that was resistant to corrosion. According to this description, there was no major congestion of the steel members, with the trusses in one plane to allow the maximum clearance for mechanical ductwork. The minutes further reported that there were two issues stressed with respect to the mechanical work; namely, the ductwork and truss coordination and the vapor barrier. "The truss fabricator must work with the ductwork fabricator and follow the truss and duct drawings provided in the documents." One of the questions was whether the specification for the metal trusses was a performance specification, to which the response was "yes."

9. Appellant submitted its CMU Test Report to the Government for approval on 30 December 1997 (ASBCA No. 53626, R4, tab 3). On 20 January 1998, the Government disapproved this submittal (*id*.). According to the Government response disapproving the submittal, the submitted concrete block test report was "for units with an average

compressive strength of around 2,000 psi," which was inadequate, since the contractually specified compressive strength for masonry on the project was 2,000 psi, and that this required a minimum average compressive strength for masonry units of 2,800 psi. Accordingly, the Government requested appellant to submit concrete masonry units compressive strength test results showing a minimum average compressive strength of 2,800 psi.

10. In its response to the Government's rejection of its submittal of its CMU Test Report, appellant asserted that the language of ¶ 2.1.1 of specification § 04230 was both confusing and misleading (ASBCA No. 53626, R4, tab 8, *see also*, R4, tab 5; decls. of Mark T. Craddock, Paul E. Craddock, and James G. Alatsas). According to appellant, the confusion and misleading nature of ¶ 2.1.1 was due to the fact that this paragraph was located in the specification requirements for masonry units as individual components, not assemblages. The Government, in its rejection of the CMU Test Report, admitted that the inclusion of the assemblage compressive strength, f' m, in ¶ 2.1.1 of § 04230 which addressed the requirements for masonry units themselves, might cause ¶ 2.1.1 to be somewhat confusing (ASBCA No. 53626, R4, tab 3).

11. On 11 June 1998, the contracting officer proposed a change to specification, § 04230, ¶ 2.1.1, that would state "fm' = 2,800 psi" instead of the existing "fm' = 2000 psi" and requested funding for this change from Southern Division Naval Facilities Engineering Command (ASBCA No. 53626, ASR4, tabs 23, 30). However, on 12 June 1998, the Southern Division Naval Facilities Engineering Command sent a message to the Assistant Resident Officer in Charge of Construction (AROICC), Key West, confirming a telephone call earlier that day and stating:

> CMU block issues- It has been established that a CMU block unit with a strength of 2800 psi will be required to meet the design intent. This requirement correlates to an assembly strength (fm') of 2000 psi as noted in the plans and specs. The ktr is required to submit calculations showing that the masonry meet the requirements of ACI 530.1 (per spec section 04230, page 3, paragraph 1.2.4.1 UNIT STRENGTH METHOD).

(ASBCA No. 53626, ASR4, tab 24)

12. On 16 July 1998, appellant submitted a revised CMU Test Report for heavier CMUs, which the AROICC approved on 31 July 1998 (ASBCA No. 53626, R4, tab 9). However, since 2,800 psi blocks were non-standard blocks and not generally available, appellant submitted a Test Report for concrete masonry units with compressive strengths in excess of 4,000 psi (ASBCA No. 53626, R4, tabs 9, 15; decls. of Mark T. Craddock, Paul E. Craddock, and James G. Alatsas).

13. Appellant submitted a Request for Equitable Adjustment (REA) to the contracting officer for its increased CMU costs on 16 June 1999 (ASBCA No. 53626, ASR4, tab 27). The basic thrust of this REA was that ¶ 2.1.1 of § 04230 of the specification was defective and confusing because it mixed the requirements of overall block strength as an assemblage, which was the f' m strength, whereas this paragraph was "clearly intended to be individual unit block strength," and that there were no manufacturers of blocks that produce a 2,800 psi block (*id.*; *see also* ASBCA No. 53626, tabs 17, 18; finding 11 *supra*). There is no evidence in the record to the contrary. Indeed, the Government's architect/engineer, in rejecting the initial CMU Test Report submittal admitted that ¶ 2.1.1 was confusing and apologized for the bad wording of that paragraph. Moreover, this paragraph of the specification required the contractor to furnish a lightweight block. Appellant procured and supplied a CMU block with a compressive strength of 3000 psi, which was a high strength block instead of a lightweight block as specified in the specifications. Appellant asserted its claim for $34,013.00 under the contract Disputes clause (ASBCA No. 53626, tab 18). The contracting officer denied appellant's claim on 11 October 2001 (ASBCA No. 53626, R4, tab 20).

14. Appellant's structural subcontractor, Dixie Southern Industrial, Inc. (DSI), contracted with Moody Engineering, Inc. (MEI) to provide the engineering design for the cold formed roof trusses on this project. (ASBCA No. 53627, app. br., attach. B, 22 April 2002 letter from Steven R. Moody, P.E.) During the initial design phase of the trusses, MEI concluded that it would not be cost effective to fabricate and/or ship the truss profiles required in the design documents, and would be difficult to expedite due to long material deliveries (ASBCA No. 53627, app. br., attach. B, 22 April 2002 letter from Steven R. Moody, P.E.). MEI further asserted that the only available cold form sections that might have been capable of working were proprietary and were not considered "metal studs" as required by § 05400 of the contract specifications. As a result, DSI directed MEI to proceed with a cost effective and shippable truss design package. This would have limited the materials to readily available shapes of 8-inch, 6-inch, and 4-inch CEE sections with gages of 16 and 14 since the contract specification did not permit 18 gage and studs. It also limited the height of trusses allowable for shipping dimensions for roads and bridges.

15. In order to meet the material and wind uplift requirements of the contract, MEI proceeded to design roof trusses that contained additional truss web members for additional support, which resulted in roof truss profiles that differed from those depicted in the contract drawings (ASBCA No. 53627, app. br., attach. A, decl. of Mark T. Craddock, attach. B, 22 April 2002 letter from Steven R. Moody, P.E., attach. C, decl. of Paul E. Craddock; R4, tab 10, attach. A). MEI completed its roof truss structural calculations on 16 February 1998, which were then submitted by appellant to the Government as submittal No. 49A on 16 April 1998 (ASBCA No. 53627, R4, tab 10, attach. F; R4, tab 5).

16. Based on the asserted design restrictions and the design documents, MEI submitted drawings and computer generated calculations for approval (ASBCA No. 53627,

app. br., attach. B, 22 April 2002 letter from Steven R. Moody, P.E.; R4, tab 5). In a letter dated 8 April 1998 accompanying its submittal No. 49A, MEI stated that the truss configurations differed from those shown on the contract structural drawings with respect to the truss web spacing so that the trusses could be constructed in the largest shippable sections. Appellant further stated that the truss profiles were not changed since these were controlled by the building geometry. Neither party has directed our attention to any specific action by the Government with respect to submittal No. 49A. However, according to correspondence in the record and declarations submitted by the parties to supplement the record, the Government rejected the 16 April 1998 submittal No. 49A without review because, according to the Government, the roof truss design did not match the truss bracing profiles depicted in the contract drawings (ASBCA No. 53627, R4, tab 10, attach. A; app. br., attach. B). During weekly meetings held during April to July 1998 between appellant and representatives of the ROICC, the subject of the truss submittals was discussed with the conclusion that appellant would submit a revised submittal with drawings and roof truss calculations, with coordination required with the ductwork vendor (ASBCA No. 53627, ASR4, tab 19). During its revisions and resubmission of its truss drawings and calculations, MEI encountered problems with the large HVAC duct sections as shown in the design documents.

17. According to an 8 April 1998 MEI letter to DSI, DSI did not have specification § 05400 during the bid phase and only a reduced set of drawings was provided and these did not indicate a 16 gage minimum for the trusses (ASBCA No. 53627, R4, tab 5). Moreover, it appears that there was inadequate coordination between appellant's truss designers and the ductwork designers during the design and submittal process (ASBCA No. 53627, R4, tabs 8, 9, 10; tab 10, attachs. A, B, C; decl. of Louise C. Sheridan). Appellant repeatedly complained that the Government expected the truss system design and ductwork design to be submitted as one package. DSI further stated in a letter, dated 12 October 1998 to appellant, that DSI had been "faced with the unusual situation of the duct work design being completed," and that the ductwork layout governed the geometry of the web members (ASBCA No. 53627, R4, tab 10, attach. A).

18. Following the Government's rejection of submittal No. 49A, appellant and MSI met with the Government's A/E on 22 April 1998 in an attempt, *inter alia*, to resolve the truss configuration issue (ASBCA No. 53627, ASR4, tab 18; app. br., attach. A, decl. of Mark T. Craddock, attach. C, decl. of Paul E. Craddock, decl. of Louise C. Sheridan, attach. RLF Memorandum of 28 May 1998). During this meeting, MEI requested the Government to produce its calculations to show how the Government A/E determined the truss configuration. MEI informed the Government during this meeting that to properly design the joist, additional web members would be required or structural "Red Iron" would be required. The Government A/E stated that he had not completed the calculations for all trusses, and wasn' t sure that he could produce them for appellant. (ASBCA No. 53627, ASR4, tab 18)

19. Appellant resubmitted its roof truss drawings and calculations by submittal No. 49B on 1 June 1998 (ASBCA No. 53627, ASR4, tab 22). This submittal was approved by the Government, except as noted on the drawings, on 31 July 1998, with the notations, "Please give one copy of marked up drawings to ROICC" and "SEE ATTACHED MEMO FOR RECOMMENDED DISPOSITION." Attached to the approved resubmittal were two memoranda, one from Rogers, Lovelock & Fritz (RLF), the Government's A/E firm, and one from the Government A/E. RLF recommended approval of the submittal as noted, with specific comments that: appellant was to resubmit complete corrected, and coordinated copy of submittal to A/E for record; appellant was to see the attached structural engineer comments and address and resolve all notes marked up on the submittal; and that appellant was to be responsible for resolving all truss/duct conflicts at no additional cost to the contract. The Government A/E also noted in his memorandum to RLF, that appellant and its engineer had submitted shop drawings and calculations that were of good quality and that they had spent a significant amount of time and effort to develop this submittal. The A/E further noted since the roof framing plans on the submitted truss drawings were different in some areas than the originally approved framing plans, appellant would have to coordinate the reconciliation of these differences.

20. By letter dated 5 August 1998, appellant detailed its problems concerning the truss/ductwork submittals (ASBCA No. 53627, R4, tab 8). According to this letter and the minutes of a meeting between appellant and ROICC on 28 April 1998 (ASBCA No. 53627, ASR4, tab 19), it was agreed that due to the complex nature of the roof truss/duct submittals, a preliminary set of drawings would be presented to the Government's A/E firm, RLF, for comment before the time and effort was spent on a complete resubmittal. The prior truss submittal had been rejected by RLF because the submitted roof truss configurations differed from the configurations shown on the contract drawings. There was a dispute between appellant's structural engineer and the Government as to whether the configurations in the contract could be met and whether or not the design was adequate with the materials specified. Appellant requested the Government to provide the name of at least one manufacturer that could design and produce such a truss. However, that was not provided as of 5 May 1998. Appellant also asserted that it was "virtually impossible" to use the original panel point locations with a light weight truss design due to the high wind load of the building, and that it was impossible to achieve the web member spacings as shown on the truss drawings in the contract drawings (ASBCA No. 53627, R4, tab 8).

21. Appellant further detailed the problems with the contract and its administration in another letter dated 5 August 1998 (ASBCA No. 53627, R4, tab 9). Paragraph 12 discussed the problems relating to the truss drawings and contract drawings:

> Truss drawings/Contract drawings. See C.P.E. [appellant's] letter number 52, dated August 5, 1998, concerning trusses. The contract drawings were deficient in that the profiles for trusses shown on structural drawings could not be fabricated

> with metal studs as clearly stated in the products section of the specifications. In order to meet the design criteria web members had to be increased in the amount of web members by at least two-thirds. This caused the contractor a massive amount of re-engineering with duct work that was clearly shown in those locations of the structural drawings. Additionally, this coordination effort re-engineering the trusses and duct work as well as RLF's insistence that they be submitted together as one package and their [sic] insistence that we not deviate or add additional web members beyond that shown on the contract elevations was improbable. This was an impossible truss configuration to follow and, according to Moody Engineering, impossible to achieve with gauged stud and track material stated in the specifications after design calculations for the wind loads were engineered. (See previous correspondence and RFI's [sic]).

22. Appellant resubmitted the roof truss design sections 21 and 22 on 26 June 1998 as submittal No. 49B, and this resubmittal was approved, except as noted on the drawings, on 14 August 1998 (ASBCA No. 53627, R4, tab 7). The approval contained a notation referencing an RLF letter dated 12 August 1998. The design data-metal framing sections and roof truss calculations were approved as submitted. Resubmission of the drawings was not required. Neither party has directed our attention in the record to the 12 August 1998 RLF letter, and we have not found it in the record. However, DSI, in its letter to appellant dated 12 October 1998, stated that:

> As you are aware, we have spent an exorbitant amount of time in the design engineering for the light gauge trusses on this project.
>
> Our engineer, Moody Engineering, designed the roof system to meet the loading requirements of the specification while using standard light gauge metal trusses to achieve the economics this system offers. Due to the extremely large wind loads generated by the specified 150-mph wind velocity, it was economically impractical to use the panel point spacing shown on the contract drawings and still use light gauge truss members. There are no conventional light gauge members either proprietary or otherwise that would economically meet the loading requirements.
>
> Since the overall responsibility for the structural design of the roof system is ours, we selected panel spacing and web

> geometry that would work while using standard light gauge members. These drawings were submitted for approval in February 1998 and we feel were wrongfully rejected without any review. The rejection simply stated that the geometry was not as shown on the contract drawings.
>
> In addition to this problem, we were faced with the unusual situation of the duct work design being completed. The duct work layout now governed the location or geometry of the web members. The latter situation coupled with the high wind loads resulted in lengthy meetings, discussions, and redesign work to satisfy the following:
>
> 1. Wind loads.
> 2. Duct layout.
> 3. Maintaining an economical light gauge truss system.

(ASBCA No. 53627, R4, tab 10, attach. A) DSI concluded by requesting $32,025.50 for increased costs in the additional design engineering, shop drawing cost, coordination costs, material increases, and overhead and profit.

23. Appellant and MEI had consistently maintained in their correspondence with the Government and in meetings with ROICC representatives that there was a conflict between the truss system and the ductwork requirements and that the drawing profiles could not be achieved. (ASBCA No. 53627, R4, tabs 6, 8, 9, 10; app. br., attach. A). According to appellant, there were three factors that made the metal truss system construction inherently impossible (app. br., attach. A). The first was that under ¶ 1.4, § 05400 of the specifications, the contractor was required to design metal framing and soffits to resist wind uplift requirements based on ASCE 7 wind velocity of 150 mph, positive and negative pressures of 80 psf, since the medical/dental clinic was designated a hurricane shelter, and was to be designed to withstand hurricane winds. Secondly, ¶ 2.1.1, § 05400 of the specification limited the contractor to the use of metal studs for fabrication, and as a result, appellant's designer and fabricator were limited to the use of metal studs for the purpose of design calculations and fabrication of the roof trusses. Thirdly, although the Government's architect RLF insisted that appellant's roof truss design exactly depicted the roof truss profiles shown on the contract drawings and did not deviate from that configuration, had appellant done so, it would have resulted in a substandard, unsafe roof structure that would likely fail during hurricanes. In this regard, appellant had continually asserted that the roof truss profiles depicted in the contract structural drawings could not be maintained without use of red iron steel or the use of cold formed metal shape that was not a metal stud, but a proprietary shape produced by various manufactures. What is missing from the record is a clear explanation and the factual material tending to support appellant's assertion that had it complied with the contract drawings containing the roof

truss profiles and not deviated from that configuration, the roof structure would have been substandard, unsafe, and likely to fail during hurricanes. In addition to these factors, some of the trusses were approximately 100 feet long, and due to the Florida Department of Transportation Regulations and complex network of bridges between the mainland and the Florida Keys site, required design considerations to account for the transportation to the site. As a result, roof trusses were built in three shippable pieces. Moreover, when appellant overlaid the roof truss design over the mechanical ductwork locations, the ductwork conflicted with the structural web members.

24. The Government did not provide appellant with its own roof truss calculations for the profiles reflected in the contract drawings. Moreover, neither party has directed our attention to any document in the record that contained the Government's roof truss calculations that establish the adequacy of the Government's roof truss design, nor have we been able to discover such calculations in the record. On 24 April 2002, the Government supplemented the record in these two appeals, which supplement included a Declaration with a report dated 20 February 2001 and attachments of Aaron J. Schroeder. One of the attachments was an analysis of appellant's truss calculations on one of the trusses. According to the Declaration of Aaron J. Schroeder, appellant's truss calculation submittals revealed that the trusses contained a significant number of members that contributed very little to the strength of the overall configuration and that there was sufficient evidence to reject appellant's position that the Government's truss profiles were flawed. Notwithstanding the voluminous data attached to Mr. Schroeder' s Declaration, we are unable to make any findings that appellant's previously approved truss calculations revealed that the trusses contained a significant number of members that contributed very little to the strength of the overall configuration. Similarly, we are unable to make any findings that the Government's truss profiles as contained in the contract drawings were adequate for the construction of a roof that met the performance requirements of the specifications. Moreover, there is nothing in the record, including the Declaration of Aaron J. Schroeder, that adequately explains for our understanding the basis for his conclusions.

25. On 30 May 2000, appellant submitted a Request for Equitable Adjustment in the amount of $82,291.00 for the increased costs resulting from the conflicts between the roof trusses and ductwork (ASBCA No. 53627, R4, tab 10). The basic thrust of appellant' s request was that there was a conflict in the contract documents in that the architect specified metal studs and track for the truss system under the product portion of the specification and that the contract depicted truss bracing that could not be met without use of conventional red iron structural steel. The problems relating to this alleged conflict were further compounded by the large amount of ductwork that had to be configured within the trusses. Moreover, according to appellant, the drawings misled the bidders as to the amount of space that should have been available as shown on the contract drawings.

26. Appellant submitted a properly certified claim in accordance with the contract Disputes clause converting its request for an equitable adjustment to a formal claim (ASBCA No. 53627, R4, tab 13). The contracting officer issued a final decision on 18 September 2001, denying this claim (ASBCA No. 53627, R4, tab 15).

DECISION

Appellant has elected to proceed under Board Rule 12.3 in these two appeals and the parties have elected to proceed with a record submission under Board Rule 11. Notwithstanding the accelerated procedures, the record in these appeals is extensive, consisting of seven notebooks, and addressing complex technical issues without the benefit of explanatory testimony or evidence. Although the record in these appeals, particularly ASBCA No. 53627, contains an abundance of conclusory statements and arguments, there is little factual information put in an understandable form that guides us through the material so that we can make appropriate findings in support of the respective positions of the parties. The briefs have been of little help in understanding the evidence in this regard, and in directing our attention to those portions of the record regarded as important in support of the respective positions of the parties.

We agree with the Government that appellant, in order to receive an equitable adjustment before the Board or court, bears the burden of proving the fundamental facts of liability and damages *de novo*. *Wilner v. United States*, 24 F.3d 1397, 1401 (Fed. Cir. 1994) (*en banc*). Thus, appellant must establish three necessary elements. *i.e.*, liability, causation, and resultant injury.

With respect to ASBCA No. 53626, appellant contends that contract specification, § 04230 was defective because it was ambiguous regarding the required compressive strength of concrete masonry, that such ambiguity was latent, that appellant's interpretation of § 04230 as requiring only CMUs with a unit compressive strength of 2,000 was reasonable, that appellant relied on its interpretation of § 04230 during the bidding process, and that the Government is liable for appellant's increased costs under the rule of *contra proferentem.*

The first question before us is whether or not an ambiguity exists with respect to whether the compressive strength requirement of ¶ 2.1 of § 04230 of the contract specifications and note 3 on contract drawing 5334531 applied to the CMUs or to masonry assemblages which included masonry units, mortar, and grout. There is no dispute that ¶ 2.1.1 of § 04230 of the contract specification defined the required CMU products, and that the Government, in rejecting appellant's CMU Test Report submittal, admitted that the inclusion of the assemblage compressive strength, "f' m," in ¶ 2.1.1 of contract specification § 04230 might cause confusion with respect to the requirement of ¶ 2.1.1. Moreover, there is no dispute that the designation of compressive strength as "f' m" describes compressive strength of a masonry assemblage, and not of a CMU. Both ¶ 2.1.1

of § 04230 and note 3 of contract drawing 533431 required that the masonry units be Type II lightweight aggregate. According to ¶ 1.6 of ACI 530.1, which was incorporated in the contract, and the table therein, the net area compressive strength of masonry (f' m) of 2000 psi for Type S mortar was 2800 psi.

We begin with the plain language when interpreting a contract and the rule that a contract is ambiguous only when it is susceptible to two reasonable interpretations, each of which is consistent with the language of the contract when read as a whole, giving reasonable meaning to all parts. *The Hunt Construction Group, Inc. v. United States*, 281 F.3d 1369, 1372 (Fed. Cir. 2002). Appellant contends § 04230 of the contract specifications was defective and latently ambiguous with respect to the compressive strength of concrete masonry units because it was reasonably susceptible to more than one interpretation for the following reasons: First, ACI 530.1 contained a mandatory specification checklist which stated that Part 1 of the specification should specify "f'm" (assemblage) and Part 2 should specify the required masonry units, and that Part 2 of the contract specification referred to masonry units at a specified compressive strength of 2000 psi. Second, according to ACI 530.1, Part 1 of the contract's CMU specification should have specified the required assemblage strength, not Part 2. Third, that the contract specification did not state that 2800 psi CMUs were required. Fourth, since Part 2 of the contract's CMU specification referred to 2000 psi units, and ACI 530.1 stated that Part 2 must refer to unit strength and not assemblage strength, it was reasonable for appellant to correlate this specified 2000 psi strength with the first two columns of Table 1.6.2.2, not the third column. Fifth, appellant contends that CMUs with a compressive strength of 2800 psi were not available, thereby supporting appellant's interpretation of the specification as requiring CMUs with a compressive strength of 2000 psi, which were available.

Before we examine the reasonableness of appellant's interpretation of § 04230 with respect to whether it defines the unit compressive strength of CMUs or the compressive strength of the masonry assemblage, we must first determine if the ambiguity, if any, was patent. *Newsom v. United States*, 230 Ct. Cl. 301, 676 F.2d 647 (1982). "A patent ambiguity is present when the contract contains facially inconsistent provisions that would place a reasonable contractor on notice and prompt the contractor to rectify the inconsistency by inquiring of the appropriate parties." *Stratos Mobile Networks USA v. United States*, 213 F.3d 1375, 1381 (Fed. Cir. 2000). Thus, a patent ambiguity exists if the ambiguity is obvious, gross, or glaring. *Grumman Data Systems Corp. v. Dalton*, 88 F.3d 990, 997 (Fed. Cir. 1996). On the other hand, "[m]ore subtle ambiguities are deemed latent and are accorded an interpretation favorable to the contractor under the doctrine of *contra proferentum.*" *Triax Pacific, Inc. v. West*, 130 F.3d 1469, 1475 (Fed. Cir. 1997). Determining whether an ambiguity is patent or latent involves placing the language in dispute at a point along a spectrum and determining whether it was so glaring as to raise a duty to inquire. *Newsom v. United States*, at 301, 650. We are required to give the "words of the agreement their ordinary meaning unless the parties mutually intended and agreed to an alternative meaning." *Jowett, Inc. v. United States*, 234 F.3d 1365, 1368 (Fed. Cir.

2000), citation omitted. We must also interpret the contract in a manner that gives reasonable meaning to all its provisions and makes sense. *McAbee Construction, Inc. v. United States*, 97 F.3d 1431, 1435 (Fed. Cir. 1996).

Here, as we held above, there is no dispute that the symbol, "f' m" describes compressive strength of a masonry assemblage, and not of a CMU. Note 3 on contract drawing 5334531, which provided "THE COMPRESSIVE STRENGTH OF MASONRY F' m, EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, SHALL BE 2000 PSI AT 28 DAYS," can be understood to be reasonably consistent with the designation of f' m in ¶ 2.1.1 of § 04230 of the contract specifications. Moreover, ¶ 1.2 SUBMITTALS, subparagraph 1.2.4.1, of § 04230 of the specifications required appellant to submit calculations and certifications of unit and mortar strength in accordance with ACI 530.1. Therefore, if ¶ 2.1.1 of § 04230 of the specifications referred only to CMUs, as the heading of ¶ 2.1 suggests and appellant asserts, there would not have been any need for calculations of the unit and mortar strength to be submitted as part of appellant's submittals in as much as the fixed compressive strength for CMUs would have been specified as 2000 psi. Further, a CMU compressive strength of 3000 psi, as submitted by appellant, was not a lightweight block as specified in ¶ 2.1.1 of § 04230 and note 3 of contract drawing 533431. We, therefore, hold that ¶ 2.1.1 of § 04230 contained an ambiguity that was obvious, gross, or glaring. As such, the contract in this respect was patently ambiguous, and appellant had a duty to inquire. There is no evidence that appellant inquired concerning this requirement prior to submitting a bid. Since this paragraph of § 04230 is patently ambiguous, appellant is not entitled to the benefit of the general rule of *contra proferentem* which construes the ambiguity against the drafter.

With respect to ASBCA No. 53627, appellant contends that the Government warrants the sufficiency of the specifications and drawings, and that if the contractor is put to additional expense as a result of defective or impossible specifications and drawings, the contractor is entitled to an equitable adjustment for that expense. We agree. However, it is not that simple. The Government contends here that the specification for the metal trusses was a performance specification and that it was up to the truss fabricator to work with the ductwork fabricator to follow the design of the truss and duct systems in the contract when they made their layouts of the roof truss system and ductwork system for construction.

It is clear that there are certain aspects of § 05400 of the contract specifications that specified the performance requirements, leaving it up to appellant's truss fabricator as to how to achieve these requirements. However, as in the case of many contract disputes, it is not unusual for a contract requirement to contain both design and performance features. Thus, the issue here is to determine whether the particular features in the contract specifications and drawings which appellant contends were impossible or impracticable to perform were detail or performance requirements.

The specifications and drawings for the roof truss system specified cold-form metal framing/trusses of a specified gauge, with drawings depicting the roof truss profiles and indicating that the ductwork could be accommodated without conflict. The specifications required metal framing for all exterior soffits to be designed to resist wind uplift requirements based on ASCE 7, wind velocity of 150 mph, positive and negative pressures of 80 psf, and that where physical structural properties were not indicated, they shall be as necessary to withstand all imposed loads. The submittal requirements set forth in the specification required appellant to submit shop drawings for the design and erection of the prefabricated roof trusses that showed the size, location, and connection details of all required bracing elements and framing and connection calculations verifying the sizes, gauges, and spacing of members and connections and for the design of all roof truss members and connections.

The questions, therefore, were whether the Government provided appellant with the details regarding the type of materials required and the roof truss profiles designed to achieve the performance requirements for the completed roof system leaving appellant little discretion in the performance with respect to the type of metal framing and roof truss profiles; or, whether the contract provided that details of the fabrication and installation of the roof truss system and ductwork were left largely to the experience and expertise of appellant and its subcontractors and agents, in accordance with the contractually required shop drawings, calculations, and contract performance standards. If the former, this was the design specification portion of the contract specifications, and appellant had the burden of proving that there were conflicts and errors in the design specification for which entitlement is required. *Santa Fe Engineers, Inc.*, ASBCA No. 24469, 92-1 BCA ¶ 24,665 at 123,068, *mot. for recons. denied*, 92-2 BCA ¶ 24,925, *aff'd*, 19 F.3d 39 (Fed. Cir. 1994) (table). If the latter, this portion of the specification is performance, there is no Government liability, absent appellant proving that the Government's performance standards against which appellant's design was measured were impossible or commercially impracticable to meet. *Engineering Technology Consultants, S.A.*, ASBCA No. 43600, 92-3 BCA ¶ 25,133 at 125,298.

Appellant appears to combine both theories for recovery. To the extent that appellant contends that there were conflicts and errors in the design portion of the specification, it has not met its burden of proof. On the other hand, to the extent that appellant contends that the performance standards of the specification against which appellant's submittals were measured were impossible or commercially impracticable to meet, it has not met its burden either. The mere assertion of a claim or contention is not sufficient basis on which to determine that appellant is entitled to relief. Generalized conclusory, unsupported opinion type statements do not demand weight when such statements are little more than self-serving conclusions. *L.B. Samford, Inc.*, ASBCA No. 32645, 93-1 BCA ¶ 25,228 at 125,660; *Newell Clothing Co.*, ASBCA No. 28306, 86-3 BCA ¶ 19,093, *aff'd*, 818 F.2d 876 (Fed. Cir. 1987) (table).

Accordingly, the appeals are denied.

Dated: 18 July 2002

ROLLIN A. VAN BROEKHOVEN
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

EUNICE W. THOMAS
Administrative Judge
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. 53626 and 53627, Appeals of C. Pyramid Enterprises, Inc., rendered in conformance with the Board's Charter.

Dated:

EDWARD S. ADAMKEWICZ
Recorder, Armed Services
Board of Contract Appeals