ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
M.A. Mortenson Company	)	ASBCA Nos. 53105, 53106, 53107,
	)	53108, 53109
Under Contract No. DACA85-94-C-0031	)	

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OPINION BY ADMINISTRATIVE JUDGE ROME

M.A. Mortenson Company (Mortenson) filed timely appeals under the Contract Disputes Act, 41 U.S.C. §§ 601-613, from 22 final decisions of the contracting officer (CO) denying its separate claims on behalf of itself and its subcontractors for extra costs allegedly due to constructive contract changes caused by defective design specifications and drawings, or the government's unreasonable interpretation thereof.[1] The government contends that appellant did not coordinate its trades, supply adequate coordination drawings, or properly examine contract drawings and specifications to avoid potential conflicts before it started work, and it misinterpreted the contract. The parties waived a hearing and seek a decision on the record under Board Rule 11, on entitlement only. In this decision, we dispose of five of the appeals.

[1] Appellant also asserted separate claims for delay and impact, not at issue in these appeals.

GENERAL FINDINGS OF FACT

The Contract[2]

1. On 16 September 1994, the U.S. Army Corps of Engineers (Corps) awarded Contract No. DACA85-94-C-0031 to Mortenson for construction of a multi-story Composite Medical Facility, Phase II, at Elmendorf Air Force Base, Alaska, to replace an existing hospital and provide medical and dental services for the Air Force and the Department of Veterans Affairs (CMF project). Anderson DeBartolo Pan, Inc., Architecture & Engineering (the A&E), designed the project for the government and prepared the contract drawings. There is no evidence in the appeals before us concerning the government's agreement with the A&E or the extent of design review performed before the invitation for bids issued. The project called for an Integrated Building System (IBS) facility, described below. The original contract amount, for base items, was $120,579,000. Notice to proceed issued on 6 October 1994 and the original contract completion date was 8 October 1998. The Corps' Elmendorf Resident Office (ERO) administered the contract. (Bd. ex. 1, vol. 1, Solicitation, Offer, and Award, Description of Work, and CS-1; *see, e.g.*, R4, tabs 1, 5, 4, 24[3])

2. The contract contains the Federal Acquisition Regulation (FAR) 52.243-4, CHANGES (AUG 1987) clause (Bd. ex. 1, vol. 1 at I-85 to I-86) and the following relevant clauses and specifications, quoted in pertinent part.

3. FAR 52.236-21, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (APR 1984), states:

> (a) . . . Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the [CO], who shall promptly make a determination in writing. Any adjustment by the Contractor without such a

[2] Board exhibit 1 contains what the government has represented to be a complete copy of the contract, excluding modifications and drawings, certain of which are in the Rule 4 files or the government's exhibits.

[3] References to the Rule 4 file in the general fact findings are to that in ASBCA No. 53105, unless otherwise indicated. References in each decision are to the Rule 4 file submitted for that particular appeal.

> determination shall be at its own risk and expense. The [CO] shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.
>
> . . . .
>
> (d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract.
>
> . . . .
>
> (e) If this contract requires shop drawings, the Contractor shall coordinate all such [shop] drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the [CO] without evidence of the Contractor's approval may be returned for resubmission. The [CO] will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the [CO] shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved . . . .

(*Id*., at I-82 to I-83)

4. Special Contract Requirements clause SCR-5, Department of Defense FAR Supplement (DFARS) 252.236-7001, CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (DEC 1991) (hereafter sometimes Contract Drawings clause),[4] states:

> (b) The Contractor shall - -
>
> (1) Check all drawings furnished immediately upon receipt;
>
> (2) Compare all drawings and verify the figures before laying out the work;
>
> (3) Promptly notify the [CO] of any discrepancies; and
>
> (4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).
>
> . . . .
>
> (d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(*Id*., at SCR-1 to SCR-2)

5. Technical Specification section (hereafter "TS") 01030, SPECIAL ITEMS, paragraph 29, CONTRACTOR'S REQUEST FOR INFORMATION [RFI], states:

> . . . When the work details are not understood following a thorough perusal of the contract drawings and specifications, the Contractor shall use a serial letter to request additional information from the [CO]. The Contractor shall recommend solutions to the issue based on its experience and first hand knowledge of the contract documents.

[4] The contract mistitles the clause as CONTRACT DRAWINGS, SPECIFICATIONS AND EXHIBITS.

> The Contractor shall recognize that a project of this nature may involve many circumstances which will require clarification and interpretation by the [CO]. The administrative cost of identifying and processing [RFIs] shall therefore be anticipated and shall not be considered additional cost to the contract. This procedure is not intended to include those types of clarifications which can and shall be addressed during the shop drawing submittal process.

(*Id*., § 01030 at 14)

6. TS 01305, SUBMITTAL PROCEDURES, provides:

> 1.3 APPROVED SUBMITTALS
>
> The approval of submittals by the [CO] shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work.
>
> . . . .
>
> 3.1 GENERAL
>
> The Contractor shall submit all items listed on the Submittal Register (ENG Form 4288) or specified in the other sections of these specifications. . . . Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative.

(*Id*., § 01305 at 1-2) The Submittal Register includes coordination drawings and detail, or shop, drawings, and other required submittals (*e.g*., *id*., at 63, 79).

7. TS 01440, CONTRACTOR QUALITY CONTROL, states:

> 3.4.2.3 Supplemental Personnel
>
> . . . .

> e. IBS space coordination – a qualified engineer or technician shall be assigned whose primary duty is to coordinate and supervise all activities within the IBS spaces, and who shall provide necessary quality control measures to assure compliance with all drawings and specification requirements. These duties include, but are not limited to, controlling the horizontal and vertical placement of items by all trades to insure accessibility and to eliminate space conflicts.

(*Id*., § 01440 at 5) Under paragraph 3.4.2.3f., a submittals coordinator is to insure compliance (*id*.). TS 01440 further provides:

> 3.6 CONTROL
>
> Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. The controls shall be adequate to cover all construction operations, including both on-site and off-site fabrication, and shall be keyed to the proposed construction sequence. The controls shall include at least three phases of control to be conducted by the CQC system manager for all definable features of work.

(*Id*., at 6) The three control phases include the following duties, among others: (1) preparatory phase prior to beginning work which involves reviewing each paragraph of applicable specifications and the contract plans; examining the work area to assure the required preliminary work is complete and complies with the contract; and examining the required materials, equipment, and sample work to assure conformance with submitted shop drawings or submitted data (§ 3.6.1); (2) initial phase at the beginning of work which involves checking preliminary work to ensure contract compliance and resolving all differences (§ 3.6.2); and (3) follow-up phase which involves daily checks to assure continuing contract compliance (§ 3.6.3).

8. TS 13060, INTEGRATED BUILDING SYSTEM REQUIREMENTS, states:

> 1.2.1 Integrated Building System (IBS) Facility
>
> A building whose geometry and utility systems are coordinated, and integrated in a systematic organizational discipline that combines building components with the building geometry. The Hospital building is an IBS

facility. Part of the IBS approach is to provide a walk-on deck to facilitate construction activities, to provide improved maintenance access for the facility, and to provide fire protection for structural steel in the distribution zones. The Hospital Lower Level does not have a walk-on deck, however the Lower Level DZ zone has a network of decks, platforms and catwalks as indicated on the drawings to provide maintenance access.

1.2.2 System Module

A unit of space, one floor level in height, served by its own utility systems. It consists of a utility pod[5], a distribution zone, a connection zone, and an occupied zone. . . .

1.2.3 Occupied Zone

A functional zone used by the building occupants defined vertically by the finished floor surface and the finished suspended ceiling above and horizontally by the extents of the module fire zone.

1.2.4 Connection Zone

A utility systems distribution space defined vertically by the finished ceiling line and the bottom of the distribution zone walk-on deck and horizontally by the extents of the module fire zone.

. . . .

1.2.6 Distribution Zone (DZ)

A utility systems distribution space defined vertically by the finished walk-on deck level and the finished occupied floor or roof above and horizontally by the rated partitions that separate occupancies or that separate the distribution

[5] A utility pod is: "A space that contains air handling, electrical, and communications equipment and associated utility system risers serving the system modules. Utility systems enter and leave the utility pod at the level of the distribution zones to serve the occupied zones." (Bd. ex. 1, vol. 2, § 13060, ¶ 1.2.7 at 2)

zone from utility pods. The distribution zones accommodate all of the major utilities systems horizontal distribution for the systems modules.

. . . .

1.3 SYSTEM DESCRIPTION

The hospital building is an IBS building with utility systems and building components organized as indicated on the drawings.

. . . .

1.3.2 Connection Zones

Coordinate the work of all trades and prepare coordination drawings indicating utility systems as specified in Section 13080 SEISMIC PROTECTION FOR MECHANICAL, ELECTRICAL EQUIPMENT to assure that the first and second level IBS connection zones and the lower level DZ shall be fully coordinated to resolve potential interferences prior to installation of the work of any trade.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA[”] designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01305 SUBMITTAL PROCEDURES:

1.4.1 SD-08 Statements

IBS Requirements Participation; FIO.

A letter from each utility systems installer, confirming that each trade has read and understands the requirements of this Section prior to the kick-off pre-installation meeting.

. . . .

1.5 QUALITY CONTROL

1.5.1 Certifications

Each trade shall certify that they have read and understand the requirements of this Section.

(Bd. ex. 1, vol. 2, § 13060 at 1-4)

9. TS 13080, SEISMIC PROTECTION FOR MECHANICAL, ELECTRICAL EQUIPMENT, referenced in TS 13060 (finding 8) and TS 15011, below (finding 16), provides with respect to coordination:

1.4.2 SD-04 Drawings

Coordination Drawings; FIO.

Detailed coordination drawings including plans, sections, and details. Coordination plan drawings shall correspond to the areas indicated on the drawings.

. . . .

1.5 QUALITY CONTROL

Coordinate the work with all trades engaged on the project. Review Contract Documents to verify the location of the various building components and items to be installed by all trades. Coordinate with all installers to adjust space requirements and clearance requirements with respect to the actual equipment provided in each building.

1.5.1 IBS Requirements

Comply with IBS requirements as specified in Section 13060 INTEGRATED BUILDING SYSTEM REQUIREMENTS including coordination with all trades to maintain DZ access aisles clearances.

1.5.2 Coordination Drawings

Coordinate the work of all trades and prepare coordination drawings prior to installing the work. Drawings shall

> indicate all utility systems and assure that clear DZ access aisles are provided and assure that the first and second level distribution and connection zones and the lower level DZ shall be fully coordinated to resolve any potential interferences prior to installation of the work of any trade.
>
> Coordination floor plan drawings shall be 1/4 inch equal 1'-0" scale to match the contract drawings, except that they shall be 3/8 inch equals 1'-0" where the contract drawings are enlarged scale plans.
>
> . . . .
>
> Provide sectional views at the same scale as the associated floor plans or larger to the extent required to assure coordination of all utility systems.

(*Id*., § 13080 at 1, 7, 9)

Government's Coordination Complaints

10. In a 25 October 1995 letter to Mortenson, ERO No. 456, the Administrative Contracting Officer (ACO) referred to discussions concerning TS 13080 (*see* finding 9), and noted that "[o]ne major issue discussed was the coordination required by the contract" (R4, tab 4 at 1). He stated:

> Our discussions, coordination drawings you have submitted to date, and the activities in the field all indicate that your coordination efforts are incomplete.
>
> First, the coordination drawings need to be more detailed. . . . An individual doing an overlay will find it impossible to determine if a brace will interfere with another trade's work. . . . Additionally, you have failed to provide sectional views as required by TS 13080.1.5.2 to assure coordination of all utility systems.
>
> Second, TS 13080.1.5.2 requires coordination plan drawings display coordination of all trades in a given area. . . . [Y]ou have provided pneumatic tube drawings which are of a different scale than required. Additionally, the contract requires simultaneous submittal of all coordination

drawings. Submission by area is acceptable if the area drawings show the work of all trades (which they do not).

Your described coordination effort relies upon individual subcontractor efforts as opposed to the contract requirement that envisions an overall management approach. The resulting product I have viewed to date leaves me with concerns that your process may lead to future problems. You say the subcontractors will be responsible for and correct any problems encountered. However, the Government will be in a position of having to accept a substandard "solution". You and your subcontractors would be faced with costly coordination through rework and revision in lieu of planning. Typically, solutions to interference problems (offsets and transitions) have system-wide implications for both the piping/duct distribution system outside of the immediate area as well as the system drivers (fan/pump sizing).

(R4, tab 4)

11. Mortenson's response is not in the record. On 30 November 1995, the ACO replied:

Reference is made to your Serial letter No. 747 dated November 16, 1995, ERO 456, and our ongoing discussions regarding the coordination drawings required by TS 13080.

Your response to ERO 456 fails to address the most basic of my questions. When are you going to submit coordination drawings that comply with the contract. Your efforts in complying with the contract on coordination drawings continue to fall short of the contract requirements. The impact of your actions are most clearly seen in the growing number of RFI issues that cannot be properly addressed without a complete set of coordination drawings and a number of conflicts that we may have avoided with a complete set of drawings prior to beginning work. . . .

. . . How can you possibly conduct complete coordination if you do not have all trades considered when you do your review? Participation in a coordination meeting is not a substitute for having all drawings available for the process. The sectional views are a management tool that

> should be used by you when exercising overall responsibility for coordination. Yes, the contract does state "to the extent required" which gives you the authority and me the expectation that you will use this tool to take a look at difficult areas and to get whatever cuts are needed to insure complete coordination. However, you chose to use the statement as a basis for limiting sectional views.
>
> I continue to see your management approach to the coordination drawings as falling short of the contract expectations and continue to have concerns regarding our missed opportunities for avoidance of conflicts. . . .
>
> Your decision to proceed with work prior to submission of acceptable coordination drawings is in direct conflict with the requirements of TS 13060 paragraph 1.3.2. . . .
>
> I am advising you that further progress payments will not be made for work activities of the trades associated with coordination requirements where the work has proceeded outside of the mockup area. Further, a retention will be held associated with your management responsibilities in the area of coordination drawings. All these actions are directly attributable to your failure to comply with the contract requirements of TS 13060 and 13080 as regards coordination and can be avoided through your compliance with the contract.

(R4, tab 5) There is no evidence that the threatened cessation of progress payments or retention occurred.

General Findings on Coordination

12. Although at first the Corps did not receive full sets of coordination drawings from Mortenson depicting all disciplines in a given area, ERO Quality Assurance Representative (QAR) Brian Taylor thinks that problem was finally resolved. Thereafter, albeit without being able to overlay the sheets, Corps personnel looked at various systems "for choke points or congested areas to see if that had been worked through." (Taylor dep. at 36)

13. Mr. Paul Tate, a mechanical-electrical-plumbing coordinator with Mortenson, supervised its coordination efforts during the CMF project. Beginning in the first project

weeks, through field mobilization, Mortenson held weekly coordination meetings, which continued for more than 80 weeks, during which Mortenson and its subcontractors engaged in interdisciplinary review of coordination and shop drawings prepared by trades installing work in the same areas. Each subcontractor was required to sign off with a joint review stamp confirming that it had reviewed the other subcontractors' drawings. This effort by Mortenson and its subcontractors involved more than 15,000 man-hours. (Tate aff., ¶¶ 1-7)

14. According to Mr. Tate, the coordination efforts of Mortenson and its subcontractors prevented hundreds of conflicts related to layout and work installation; due to problems they identified in the coordination process, the government issued more than 20 contract modifications; and, many times, the space the contract depicted for placement of equipment and utility systems was not large enough to contain them (*id*., ¶¶ 6, 7, 11, 12). Mr. Tate has not addressed the particulars of the individual appeals at issue.

Kloepfer Affidavits

Appellant supports each of its appeals with separate affidavits of Darryl Kloepfer.

15. Mr. Kloepfer is the operations manager and vice president of Pacific Partitions/Specialty Interiors, Inc. (PPSI), Mortenson's drywall subcontractor on the CMF project. PPSI has over 27 years' experience and has completed projects exceeding $10,000,000, including projects similar to the CMF project, although it is not clear whether it had done so prior to that project. Mr. Kloepfer has 34 years' experience in the drywall industry. He has been a journeyman carpenter, carpenter foreman, field manager, and contracts administrator. He visited the site on a regular basis and PPSI's project manager reported directly to him. (*E.g*., Kloepfer aff. for ASBCA No. 53105, ¶¶ 1-3)[6]

FINDINGS OF FACT AND DISCUSSION CONCERNING INDIVIDUAL APPEALS

ASBCA No. 53105
(Above-Ceiling Conflicts in Room LE112 (Autopsy Room))

This appeal involves Mortenson's $2,838 claim for remobilization and rework costs of lowering a suspended ceiling installed at the design height. After installation of the ceiling and specified HVAC ducts and terminal units, it was discovered that the remaining above-ceiling space was inadequate for specified recessed light fixtures.

[6] Citation to a Kloepfer affidavit is to that submitted for the appeal under discussion, unless otherwise indicated.

FINDINGS OF FACT

16. TS 15011, MECHANICAL GENERAL REQUIREMENTS, paragraph 1.5, QUALITY CONTROL, states:

> 1.5.1 Coordination
>
> Coordinate the work with all trades engaged on the project. Review contract documents to verify the location of the various building components and items to be installed by all trades.
>
> Comply with all requirements specified in Section 13060 INTEGRATED BUILDING SYSTEMS REQUIREMENTS.
>
> Coordinate with installers for other divisions and sections to define space requirements and clearance requirements with respect to all equipment in the building. Participate in the preparation of coordination drawings as specified in Section 13080 SEISMIC PROTECTION FOR MECHANICAL, ELECTRICAL EQUIPMENT.

(Bd. ex. 1, vol. 3, § 15011 at 1, 2a)

17. TS 16011, ELECTRICAL GENERAL REQUIREMENTS, paragraph 1.4, SUBMITTALS, subparagraph 1.4.1, SD-13 Certificates, calls for the following submittals:

> Integrated Building Systems Requirements; FIO.
>
> Written certification that each trade has read and understands the requirements of Section 13060 INTEGRATED BUILDING SYSTEMS REQUIREMENTS.
>
> Coordination Drawings; FIO.
>
> Written certification that each trade has participated in preparing coordination drawings and that the drawings indicate the proposed work correctly.

(*Id*., § 16011 at 1-2) Paragraph 1.5, QUALITY CONTROL, subparagraph 1.5.1, Coordination, requires the same coordination efforts as set forth in TS 15011, subparagraph 1.5.1 (finding 16) (Bd. ex. 1, vol. 3, § 16011 at 2).

18. TS 16113, FLOOR/WALL/CEILING DUCT SYSTEMS, calls for the following submittals under paragraph 1.2.2, SD-04 Drawings:

> Duct System; FIO.
>
> Detail drawings consisting of a complete itemized list of equipment and material, manufacturer's data and drawings, Contractor's drawings, and instruction manuals. Accurate and complete drawings as required to demonstrate compliance with the applicable provisions of the contract. Drawings for each room indicated to have duct systems. Drawings shall clearly show the proposed layout of the duct systems, including associated conduits and wireways. Drawings shall show connections to equipment or equipment cabinets, panelboards, and related components. Drawings shall be accurately scaled or dimensioned to indicate the proposed layout of the systems, construction features of the facility or building, and equipment to be installed which would impact the layout or usage of the duct systems. The layouts shall ensure the clearances required for the proper operation, maintenance, and use of the system and facility equipment. . . . The exact location of trench, ceiling, and wall ducts, junction boxes, cover plates, conduits, and panelboards shall be shown.

(*Id*., § 16113 at 1-2)

19. TS 16415, ELECTRICAL WORK, INTERIOR, states:

> 1.2.2 Coordination
>
> The drawings indicate the extent and the general location and arrangement of equipment, conduit, and wiring. The Contractor shall become familiar with all details of the work and verify all dimensions in the field so that the outlets and equipment shall be properly located and readily accessible. Lighting fixtures, outlets, and other equipment and materials shall be located to avoid interference with mechanical or structural features; otherwise, lighting

fixtures shall be located to suit conditions fixed by design and shown. . . . If any conflicts occur necessitating departures from the drawings, details of and reasons for departures shall be submitted and approved prior to implementing any change. The Contractor shall coordinate the electrical work with HVAC and electrical drawings and provide all power related wiring even if it is not shown on electrical drawings.

. . . .

1.3.1 SD-04 Drawings

Electrical Work; FIO.

Detail drawings for all materials and equipment specified including fire seals. Detail drawings shall consist of a complete list of equipment and materials, including manufacturer's descriptive and technical data; catalog cuts; and any special installation instructions that may be required. Drawings shall show applicable schematic diagrams; equipment layout and anchorage; and conduit and cable tray runs, anchorage, and support.

. . . .

3.16.2 Fixtures

Fixtures shall be as shown and shall conform to the following specifications and shall be as detailed on Standard Drawing No. 40-06-04, fixture detail drawings and the Light Fixture Schedule on the Drawings, which accompany and form a part of this specification for the types indicated.

. . . .

3.16.2.3 Ceiling Fixtures

Ceiling fixtures shall be coordinated with and suitable for installation in, on, or from the suspended ceiling provided under other sections of these specifications. . . . Recessed fixtures shall have adjustable fittings to permit alignment

> with ceiling panels. . . . Surface-mounted fixtures shall be suitable for fastening to the structural support for ceiling panels.

(*Id*., § 16415 at 1, 7, 9, 57, 58)

20. Drawing No. E0.101,[7] ELECTRICAL SYMBOLS AND ABBREVIATIONS, states in General Notes:

> 1. Refer to Architectural Drawings (Reflected Ceiling Plans, Interior Elevations . . . etc.) for exact location of electrical equipment, including lighting fixtures . . . .
>
> . . . .
>
> 5. All details shall be considered as typical.
>
> 6. Contractor shall field verify all existing conditions prior to bidding and the commencement of work.

(R4, tab 34)

21. Drawing No. A8.401, CEILING DETAILS, depicts "General Ceiling Construction Details" for the CMF project (*see* R4, tab 25, Reflected Ceiling Plan, Note 8). Note 2 to the drawing states: "COORDINATE ALL CEILING DETAILS WITH STRUCTURAL, MECHANICAL AND ELECTRICAL" (R4, tab 28).

22. Drawing No. A0.02, GENERAL NOTES, states at Reflected Ceiling Plan Note 3: "CEILING HEIGHTS ARE IDENTIFIED ON ROOM FINISH SCHEDULE. VARYING HEIGHT CEILINGS CALLED OUT ON REFLECTED CEILING PLANS" (R4, tab 25).

23. For Room LE112, the specifications and drawings depict six recessed fluorescent light fixtures, type "BG," on a suspended gypsum board (sometimes referred to as gypsum wallboard (GWB)) ceiling (R4, tab 25, Reflected Ceiling Plan Notes 3, 6, and Reflected Ceiling Plan Symbols; tabs 26, 34, 35; ex. G-2; Bd. ex. 1, vol. 3, § 16415 at 87 (Std. Det. No. 40-06-04, sheet 19)).

24. Drawing No. A3.105, LOWER LEVEL AREA 'LE1' REFLECTED CEILING PLAN, specifies a nine-foot high ceiling for Room LE112 (R4, tab 26).

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[7] Citations are to the drawing reference number.

25. Drawing No. M1.105, LOWER LEVEL AREA 'LEI' FLOOR PLAN - HVAC, shows above-ceiling air ducts in Room LE112, with 16, 14 and 12-inch diameter duct lines, and a 10-inch diameter terminal unit (R4, tab 30; *see also* R4, tab 29).

26. Drawing No. M3.105, LOWER LEVEL AREA 'LE1' FLOOR PLAN - PLUMBING, shows various sized above-ceiling plumbing lines in Room LE112 (R4, tab 33; *see also* R4, tabs 31, 32).

27. After the Room LE112 ceiling was installed at the nine-foot height specified in drawing No. A3.105, and duct work and a terminal unit were hard mounted to the ceiling, as reflected on drawing No. M1.105, it was discovered that there was not enough above-ceiling clearance to install the recessed light fixtures as specified in drawing No. M3.105, which positioned them beneath the duct work and terminal unit. There would be only two inches of clearance when at least six were necessary. On 5 February 1997 Mortenson submitted RFI No. 2623, noting the problem. It proposed changing the light fixtures to surface-mounted. On 11 February 1997 the Contracting Officer's Representative (COR) responded that this was not acceptable, but that lowering the ceiling frame by four inches, at no additional cost to the government, would be. He contended that proper coordination drawings should have identified the problem prior to installation and allowed for adjustments before framing was in place. (R4, tab 6; Kloepfer aff., ¶¶ 6-7)

28. On 28 May 1997 Mortenson requested a $2,754 equitable adjustment based upon claims by PPSI; by Mortenson's mechanical subcontractor, W.A. Botting Company/The Poole & Kent Company, A Joint Venture (BPK) (forwarding a claim by its subcontractor, Grinnell Fire Protections Company, Inc. (Grinnell)); and for Mortenson's alleged costs associated with lowering the ceiling (R4, tab 8). The ACO denied the request on 13 June 1997 on the ground that the contract required that Mortenson prepare coordination drawings indicating utility systems, in order to resolve potential interferences prior to installation of any trade's work in the connection zones, and had Mortenson done so, the conflict could have been avoided without the need for rework (R4, tab 9).

29. On 26 May 2000 Mortenson submitted a $2,838 claim for lowering Room LE112's ceiling and adjusting fire protection piping, alleging that the above-ceiling HVAC ductwork, terminal units, and GWB ceiling grid were installed per Drawings No. A3.105, M1.105, and M3.105, but that the specified recessed light fixtures could not be installed because the specified ductwork/terminal unit configuration allowed only two inches of vertical room above the ceiling when six were required (R4, tab 3 at 1).

30. On 15 August 2000 the CO denied the claim on the basis that Mortenson "failed to coordinate all trades work before installation of any above-ceiling fixtures, and

failed to produce the required coordination drawings of the work space" (R4, tab1 at 2).[8] The CO concluded that, had it performed its contractually-required drawings review and coordination duties, and timely notified the CO, remobilization and rework would have been unnecessary, and "possibly a solution other than changing the design of the ceiling (by lowering it) may have been implemented" (*id*., at 20).

31. It is unclear whether Mortenson failed entirely to submit coordination drawings with respect to Room LE112; or whether it submitted coordination drawings that the government considered to be inadequate; or whether it submitted any shop drawings covering the mechanical or electrical installations in the room. There are no coordination drawings, and no shop drawings, in the record for this appeal. Mr. Kloepfer's affidavit does not address coordination. Mr. Tate's affidavit does not identify any coordination efforts regarding this appeal (*see* finding 14). Appellant has not submitted any coordination evidence pertaining specifically to this appeal.

DISCUSSION

Appellant alleges that "[t]he mere fact that Mortenson was supposed to prepare coordination drawings does not excuse the Government from issuing coordinated design drawings for Mortenson's use;" the government has attempted to shift the burden of an unworkable design to the contractor by relying upon technical, self-protective language; the "failure to perform sufficient design review prior to the drawings being issued for bid constitutes a breach of the Government's implied warranty of plans and specifications;" and the government cannot exculpate itself by relying upon the contractor's duty to coordinate (app. br. at 54).

The government contends that not only is the requirement that a contractor coordinate the work of its trades fundamental, but here, the contract clearly imposes specific coordination responsibilities upon appellant; it also obligates appellant to review the contract drawings and to bring discrepancies promptly to the CO's attention; and appellant's claim results from its failure to comply with its coordination and review responsibilities. The government alleges that the purpose of the shop drawings - - in this case for the duct systems - - and of the coordination drawings required by the contract, is to discover and avoid the sort of clearance problem of which appellant complains.

Appellant bears the burden of proving its claims by a preponderance of the evidence. It must show liability, causation, and resultant injury. *Servidone Construction Corp. v. United States*, 931 F.2d 860, 861 (Fed. Cir. 1991). Mere assertions or unsupported allegations, including statements in briefs, do not constitute proof or evidence. *Technocratica*, ASBCA Nos. 46567 *et al*., 99-2 BCA ¶ 30,391 at 150,226;

[8] In each appeal, the CO's final decision is at R4, tab 1, with a cover letter. In these decisions, citations to tab 1 pages are to pages of the final decision.

Praoil, S.r.L., ASBCA Nos. 41499, 44369, 94-2 BCA ¶ 26,840 at 133,502. While the government impliedly warrants the correctness and adequacy for the job of its design specifications and drawings, *United States v. Spearin*, 248 U.S. 132, 136-37 (1918), the implied warranty does not eliminate the contractor's duty to investigate or inquire about a patent ambiguity, inconsistency, or mistake when the contractor recognized, or should have recognized, an error in the specifications or drawings. *White v. Edsall Construction Co.*, 296 F.3d 1081, 1085 (Fed. Cir. 2002). Thus, appellant bears the burden to prove that it complied with the contract, but that a defect in the contract drawings, which it could not have recognized with reasonable effort, was responsible for its claimed extra costs.

There is no evidence in these appeals concerning the extent of design review performed before the invitation for bids issued (finding 1). Thus, we cannot evaluate appellant's contention that the review was insufficient. Regardless, although the contract drawings do not allow for enough clearance between the specified ductwork, terminal unit and recessed light fixtures in Room LE112 (*see* finding 27), as we found above and discuss below, the contract imposes coordination and review responsibilities upon appellant with the expressed intent of identifying such defects in advance of installation. These requirements are not superfluities; they are part of the contract bargain. It is established that a contract is to be read as a whole, giving a reasonable meaning to all of its parts, and not leaving a portion inoperative. *Lockheed Martin IR Imaging Systems, Inc. v. West*, 108 F.3d 319, 322 (Fed. Cir. 1997); *Gould, Inc. v. United States*, 935 F.2d 1271, 1274 (Fed. Cir. 1991).

The contract's general clauses call for drawings coordination and review by the contractor, and assurance, through the shop drawings process, that equipment fits properly. Under the FAR Specifications and Drawings for Construction clause, shop drawings are to show, "in detail," "the installation (i.e., fit, and attachment details) of materials or equipment" (finding 3). The contractor is to coordinate the shop drawings and review them for accuracy (*id.*). Under the DFARS Contract Drawings clause the contractor is to check all drawings upon receipt; compare all drawings and verify the figures before laying out the work; and be responsible for errors that could have been avoided through compliance with the review and verification requirements (finding 4).

The contract's technical specifications are replete with coordination and review requirements, including that the contractor assure adequate clearance for installations. The submittal specifications call for the contractor's quality control (CQC) representative to check and approve coordination drawings and shop drawings prior to submittal (finding 6). The CQC specifications require that the contractor assign a qualified engineer or technician whose primary duty is to coordinate and supervise all activities within the IBS spaces, including "controlling the horizontal and vertical placement of items by all trades to . . . eliminate space conflicts," and that the CQC system manager conduct a preparatory quality control phase, prior to beginning work, to review applicable specifications and drawings (finding 7).

The IBS system requirements specifications call for the contractor to coordinate the work of all trades and prepare coordination drawings indicating utility systems as specified in TS 13080, the mechanical and electrical seismic protection specification. This is to assure full coordination of the IBS connection zones and lower level distribution zone "to resolve potential interferences prior to installation of the work of any trade." (Finding 8) (We infer that the work at issue is in a connection zone, as described in TS 13060, ¶ 1.2.4 (*id*.; *see also* finding 28)). Each utility systems installer is to submit a letter confirming that it understands the requirements and each trade is to certify that it has read and understands them (finding 8). TS 13080 calls for trades coordination; detailed coordination drawings, to be prepared "prior to installing the work," that are to "indicate all utility systems and assure" that the distribution and connections zones are "fully coordinated to resolve any potential interferences prior to installation of the work of any trade;" and scaled sectional views "to assure coordination of all utility systems." (Finding 9)

The mechanical general specifications require trades coordination; coordination with installers for other divisions and sections "to define space requirements and clearance requirements with respect to all equipment in the building;"and coordination drawings (finding 16). The electrical general specifications require coordination drawings and certifications that each trade has participated in them (finding 17). The ceiling duct systems specifications require shop drawings for each room indicated to have duct systems, such as LE112, clearly showing the proposed layout of the systems. The drawings are to be accurately scaled or dimensioned to indicate the duct systems' layout, the construction features of the facility and the:

> equipment to be installed which would impact the layout or usage of the duct systems. The layouts shall ensure the clearances required for the proper operation, maintenance, and use of the system and facility equipment.

(Finding 18)

The interior electrical work specifications state that the drawings indicate "the extent and the general location and arrangement of equipment." However, the contractor is to become familiar with all details of the work and verify all dimensions in the field so that the equipment is properly located. Lighting fixtures are to be "located to avoid interference with mechanical or structural features" and the contractor is to coordinate the electrical work with the HVAC and electrical drawings and to provide detail drawings to show equipment layout. (Finding 19)

The contract drawings also call for coordination and review by the contractor. While Drawing No. E0.101 refers the contractor to the architectural drawings for the

exact location of electrical equipment, including lighting fixtures, it also provides that the contractor is to field verify all existing conditions prior to work commencement (finding 20). Drawing No. A8.401, which depicts general ceiling construction details, emphasizes at Note 2 that the contractor is to "COORDINATE ALL CEILING DETAILS WITH STRUCTURAL, MECHANICAL AND ELECTRICAL" (finding 21).

It is apparent that the contract anticipates that clearance and fit problems and other conflicts might occur and that it calls for the contractor to attempt to discover and resolve them through its contract drawings review process; its own coordination and shop, or detail, drawings; and its other coordination duties, before it begins work in a particular area. There are no shop drawings or coordination drawings in the record for this appeal. Appellant has not submitted any coordination evidence pertaining specifically to this appeal. (Finding 31) Thus, it has not established that it complied with the contract's coordination requirements, but that, nevertheless, such coordination could not have timely discovered and resolved the ceiling space problem.

To the contrary, we conclude that, had appellant submitted the required, detailed, scaled shop drawings and coordination drawings, and performed the necessary coordination of the duct, electrical and ceiling installations in Room LE112, prior to commencing work, it would have discovered the need for more space to accommodate the recessed light fixtures and the parties could have agreed to adjustments to resolve the problem. Appellant is responsible for the consequences of its apparent failure to do so. *See Greenhut Construction Company, Inc.*, ASBCA No. 36912, 90-3 BCA ¶ 23,259.

DECISION

ASBCA No. 53105 is denied.

ASBCA No. 53106
(Above-Ceiling Conflicts in Rooms 1E121 and 1E123 (Mammography Rooms))

This appeal involves Mortenson's $1,487 claim for costs of lowering suspended ceilings installed at design height, and adjusting the fire sprinkler system, when specified recessed light fixtures would not fit within the allotted space, due to vertical clearance conflicts with structural beams.

FINDINGS OF FACT

32. In addition to the general contract provisions, specifications and drawings cited in ASBCA No. 53105, findings 3-9, 16-22, the following specifications and drawings apply.

33. The contract specifies a ceiling height of 9 feet 10 inches in Rooms 1E121 and 1E123 (R4, tabs 24, 26 (Reflected Ceiling Plan Note 3)).

34. The contract drawings depict four adjacent fluorescent recessed light fixtures, type "DD," on a gypsum board ceiling in Rooms 1E121 and 1E123, and show a wall in Room 1E121 along grid line 9, with a light fixture nearby, and a wall in Room 1E123 along grid line G, with a light fixture nearby. (R4, tabs 27, 29; Bd. ex. 1, vol. 3, § 16415 at 108 (Std. Det. No. 40-06-04, sheet 19)) Drawing No. S2.24, FIRST LEVEL IBS 'D' FRAMING PLAN, depicts moment-frame beams along grid lines G and 9 (R4, tab 33). The walls have 2-hour fire/smoke ratings, such that the beams and wall/ceiling gaps are specially treated or sealed (R4, tab 1 at 7, tab 25 at Codes, tab 26 at Floor Plan Note 23). The drawings show that above-ceiling air ducts and HVAC components are to be installed in Rooms 1E121 and 1E123 (R4, tab 32; *see also* R4, tab 31).

35. Drawing No. E8.101, Note 10, applies to type "DD" fixtures and states:

> . . . REFER TO REFLECTED CEILING PLANS FOR EXACT FIXTURE LOCATIONS. PROVIDE SHOP DRAWINGS FOR EACH TYPICAL CONDITION AND REFERENCE ALL LOCATIONS TO PLANS. UTILIZE ONLY THOSE LAMPS SPECIFIED IN FIXTURE SCHEDULE.

(R4, tab 30)

36. The ceilings in Rooms 1E121 and 1E123 initially were installed at a height of 9 feet 10 inches, as specified. Thereafter, it was discovered that there was not enough above-ceiling clearance to install the required flush-mount light fixtures due to structural beams at those locations. (Kloepfer aff., ¶ 6)

37. On 22 April 1997 Mortenson submitted RFI No. 2787 stating that, due to conflicts between the lights and the beam along the 9 grid line in Room 1E121 and to the rated closure at the beam along the G grid line in Rooms 1E121 and 1E123, it was unable to achieve the specified 9 foot 10 inch ceiling height and could only accomplish 9 feet 2 inches. It asked for confirmation of the latter height and, on 24 April 1997, the COR concurred without further comment. (R4, tabs 6, 9)

38. On 14 May 1998 Mortenson sought a $1,781 equitable adjustment on behalf of BPK (and Grinnell), PPSI, and itself for alleged extra costs to remobilize framing crews and to remove and reinstall sprinkler piping to accommodate a lower ceiling height (R4, tab 8). Mortenson's records, including a "NEGOTIATION AND SETTLEMENT RECAP," indicate that Craig Schreiber, whom it describes as "the ERO's senior cost issue negotiator," agreed on 19 June 1998 to an upward price adjustment of $1,487 (R4,

tab 3 at 2, ex. D; tab 8). However, the appeal record does not include settlement documentation prepared by the government or evidence of any settlement agreement by an official authorized to bind it.

39. On 26 June 1998 an alternate ACO denied Mortenson's request, stating that the ERO had concurred with its RFI solution, but at no additional cost to the government, and Mortenson was required under TS 13060, paragraph 1.3.2 (finding 8) to coordinate its trades and to resolve potential work interferences prior to installation (R4, tab 9). Mortenson responded on 7 July 1998 that the specification did not apply because the conflict was "between the beam closure and the designed ceiling height and not a conflict of designed utility systems" (R4, tab 10 at 1).

40. On 26 May 2000 Mortenson submitted a $1,487 claim, alleging defective drawings and prior settlement (R4, tab 3). The CO's 15 August 2000 final decision denied the claim on the same grounds as those in ASBCA No. 53105, *i.e.*, that the contractor had failed to satisfy the review and coordination duties the contract imposed upon it (R4, tab 1). She stated that "[t]he fact that the Government previously negotiated a cost for this work" did not obviate the contractor's responsibility for above-ceiling space coordination nor obligate the government to pay for the work (*id.*, at 20).

41. It is unclear whether Mortenson submitted any coordination or shop drawings for Rooms 1E121 and 1E123. There are no such drawings in the record for this appeal. Mr. Kloepfer's affidavit does not address coordination. Mr. Tate's affidavit does not identify any coordination efforts regarding this appeal (*see* finding 14). Appellant has not submitted any coordination evidence pertaining specifically to this appeal.

DISCUSSION

Appellant contends that the government breached an agreement to settle its equitable adjustment request for $1,487. Although the CO acknowledged in her final decision that the government had negotiated a cost for the work, she denied any binding agreement to pay and there is no evidence of any settlement agreement by an official authorized to bind the government (findings 38, 40). Thus, appellant cannot recover on the basis of settlement. *Daly Construction, Inc. v. Garrett*, 5 F.3d 520 (Fed. Cir. 1993).

Appellant also alleges that the contract drawings concerning Rooms 1E121 and 1E123 are defective due to conflicts between specified flush-mounted light fixtures and structural steel beams above the ceilings that do not allow adequate ceiling space to install the light fixtures. We incorporate our discussion pertaining to ASBCA No. 53105 to the extent relevant. Additionally, while Note 10 to Drawing No. E8.101 directs the contractor to the reflected ceiling plans for exact fixture locations, it also instructs it to "[p]rovide shop drawings for each typical condition and reference all locations to plans" (finding 35). It is unclear whether Mortenson submitted any coordination or shop

drawings with respect to Rooms 1E121 and 1E123 and appellant has not submitted any coordination evidence pertaining specifically to this appeal (finding 41). On the grounds set forth in our discussion of ASBCA No. 53105, we conclude that appellant has failed to meet its burden to prove its claim.

DECISION

ASBCA No. 53106 is denied.

ASBCA No. 53107
(Added Framing at Central Plant Pre-Cast Embeds)

This appeal involves Mortenson's $7,595 claim for costs of revisions to metal stud framing to avoid a conflict between the specified spacing of metal studs and the placement of embedded plates for the attachment of precast panels at the central plant.

FINDINGS OF FACT

42. TS 03450, PRECAST ARCHITECTURAL CONCRETE, provides:

> 1.2 GENERAL REQUIREMENTS
>
> . . . Precast work shall be coordinated with the work of other trades.
>
> . . . .
>
> 1.3.2 Connections
>
> Connection of units to the building, other members, or to other units shall be of the type and configuration indicated on the drawings unless otherwise approved by the [CO]. The contractor is responsible for coordinating and locating all the embedded items in the floor slabs and the precast units to avoid any conflict during erection.
>
> . . . .
>
> 1.4 SUBMITTALS
>
> . . . The following shall be submitted in accordance with Section 01305 SUBMITTAL PROCEDURES:

. . . .

1.4.2 SD-04 Drawings

Architectural Concrete System; GA

Detail drawings showing details in accordance with ACI 315 and ACI 318, including installation details. Detail drawings shall indicate separate identification marks for each different precast unit, location of units in the work, elevations, fabrication details, welding details, reinforcement, connections, dimensions, interface with adjacent members . . . in sufficient detail to cover manufacture, handling, and erection. . . .

. . . .

2.2.3 Embedded Accessories

Anchors, inserts, lifting devices, and other accessories which are to be embedded in the precast units shall be furnished and installed in accordance with the approved detail drawings. Embedded items shall be accurately positioned in their designed location. . . .

. . . .

3.8 QUALITY CONTROL

The Contractor shall establish and maintain control of the work covered under this section to ensure compliance with the contract requirements in accordance with Section 01440 CONTRACTOR QUALITY CONTROL, and Section 03300 CONCRETE FOR BUILDING CONSTRUCTION, including but not limited to the items listed below.

. . . .

c. Embedded items are accurately located and securely positioned.

(Bd. ex. 1, vol. 1, § 03450 at 1-5, 11, 15-16) The record does not indicate whether Mortenson submitted any detail drawings that reflected the precast units, connections and embeds.

43. The referenced TS 01440, CONTRACTOR QUALITY CONTROL, is quoted in part at finding 7. The referenced TS 03300, CONCRETE FOR BUILDING CONSTRUCTION, states:

> 3.1.4 Embedded Items
>
> Before placement of concrete, care shall be taken to determine that all embedded items are firmly and securely fastened in place as indicated on the drawings, or required.

(*Id*., § 0330 at 19)

44. Architectural Drawing No. A2.511, CENTRAL PLANT WALL SECTIONS, specifies the "Typical Wall System" as involving gypsum sheathing on 8-inch metal studs at 16 inches on center and depicts precast panels (R4, tab 22). Drawing No. A2.512, CENTRAL PLANT WALL SECTIONS, Detail 4, Wall Section, shows 8-inch steel studs at 16 inches on center (R4, tab 23). Drawing No. A2.513, CENTRAL PLANT EXTERIOR WALL DETAILS, Detail 6, Stud Brace, also notes 8-inch steel studs at 16 inches on center (R4, tab 24). These drawings do not depict or refer to embeds or connections to the structure.

45. Structural Drawing No. S0.02, GENERAL NOTES, "GENERAL," states:

> 1. COORDINATE DIMENSIONS, OPENINGS, EMBEDDED ITEMS, AND CONDITIONS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND TRADES PRIOR TO CONSTRUCTION. NOT ALL ITEMS ARE INDICATED ON STRUCTURAL DRAWINGS. NOTIFY [CO] OF DISCREPANCIES.
>
> . . . .
>
> 3. ALL DETAILS ARE TYPICAL. INCORPORATE INTO PROJECT AT APPROPRIATE LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.

(R4, tab 19)

46. Drawing No. S8.01, BUILDING PRECAST PANEL ELEVATIONS, which is scaled, depicts the North Elevation building precast panel elevations and shows fixed and sliding embed plates, cross referencing Drawing No. S8.13. The drawing's GENERAL PRECAST PANEL NOTES state:

> 1. . . . THE DIMENSIONS SHOWN ON THE DRAWINGS ARE FOR DESIGN INTENT AND BIDDING PURPOSES ONLY; THE CONTRACTOR IS RESPONSIBLE FOR DETAILING AND FABRICATING THE UNITS. . . .
>
> 2. CONNECTION OF UNITS TO THE BUILDING, OTHER MEMBERS, OR TO OTHER UNITS SHALL BE OF THE TYPE AND CONFIGURATION INDICATED ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND LOCATING ALL THE EMBEDDED ITEMS IN THE FLOOR SLABS AND THE PRECAST UNITS TO AVOID ANY CONFLICT DURING ERECTION.
>
> . . . .
>
> 5. EMBEDS OCCUR ON INTERIOR FACE OF PRECAST PANELS[.] SEE DETAILS TO DETERMINE CONDITIONS.

(R4, tab 20) Note 8 depicts the symbol for panel type, "TO PROVIDE CRITERIA FOR THE HORIZONTAL LOCATION OF FERRULES AND EMBEDS" (*id*.), and refers to Drawings No. S8.15 and S8.16. Drawing No. S8.01's DIMENSIONING NOTES state:

> 1. FOR VERTICAL LOCATIONS OF FERRULES AND EMBEDS, REFER TO DETAILS AND SECTIONS ON DRAWINGS S8.13 AND S8.14.
>
> 2. FOR HORIZONTAL LOCATIONS OF FERRULES AND EMBEDS NOT INDICATED ON THE ELEVATIONS, REFER TO DETAILS ON DRAWINGS S8.15 AND S8.16 FOR CRITERIA.

(*Id*.) The referenced Drawings No. S8.13 through S8.16 are not in the record for this appeal.

47. Drawing No. S8.19, CENTRAL PLANT PRECAST PANEL ELEVATIONS, which is scaled, contains four elevation details and depicts fixed and sliding embed plates on each, cross-referencing Drawing No. S8.18, which is not in the record for this appeal. The drawing Note refers to Drawing No. S8.01 (finding 46) for precast panel notes and dimension notes. (R4, tab 21)

48. In reviewing central plant framing requirements, "PPSI discovered a conflict between the specified spacing of the 8" metal studs and the embedded plates used to attach the building's precast to the structure" (Kloepfer aff., ¶ 6). PPSI and Mortenson decided that more framework above the embeds would allow framing to continue at the required 16-inch spacing (*id*., ¶ 7). We infer that PPSI discovered the conflict during the process of framing for erection of the precast units in September 1995 (*see* finding 49).

49. By RFI No. 1126, dated 14 September 1995, Mortenson noted: "Contract drawings call out for 8" metal studs at 16" OC. Due to the congestion of pre-cast embeds at several areas it is not possible to maintain a 16" spacing and not interfere with metal studs." It appended a detail of framing bridged over a pre-cast connection, and sought approval. In a 22 September 1995 response, the ERO concurred, without further comment. (R4, tab 4) A PPSI report entitled "Field Directive/Extra Work Authorization" reflects that PPSI began to work on 14 September 1995 on what it described as "Changes to Metal Framing to Accommodate Steel/Precast Conflict at the Central Plant" (R4, tab 6).

50. On 12 July 1996 Mortenson sought a $7,397 change order on behalf of PPSI and itself, which the ACO denied on 25 July 1996 (R4, tabs 7, 8). He stated that the work was required under the omissions and misdescriptions paragraph of the Contract Drawings clause (*see* finding 4). The parties continued thereafter to debate that issue. Because the record is insufficient for us to determine whether the clause applies, and the government does not rely upon it on appeal, we make no further findings concerning it. The ACO also stated:

> . . . Minor framing concerns such as this can be expected in any job, especially one of this magnitude. Neither the framing nor the precast embeds in this location have changed from the original bid documents

(R4, tab 8)

51. In a 5 August 1996 letter to Mortenson, PPSI disputed that the matter was minor, stating:

> No Stud details are provided or work indicated for blockouts to the structural metal stud framing (48

> locations), where the structural stud framing had to be altered significantly to accommodate the precast connection/structural stud placement requirements. Had this work been identifiable, provisions would have been made. . . .

(R4, tab 9)

52. On 9 August 1996, Mortenson sought a CO's final decision, also disputing that the matter was minor and stating:

> We agree that both the precast embeds and the framing are in the locations shown on the original drawings. Therein lies the problem creating this additional cost request. The original contract drawing dimensions defined specific spacing for stud framing and specific locations for precast embeds. They are in conflict.
>
> . . . .
>
> Based on dimensions given and framing requirements defined, the designers possessed all necessary prior knowledge to determine that a conflict existed between the precast connection locations and the stud framing. With this knowledge available to the Architect, the contractors should reasonably expect that a detail to correct this conflict, or at a minimum a warning that the conflict exists, will be provided on the contract documents. It is an unreasonable position that the contractors are expected to uncover and correct this obvious design discrepancy.

(R4, tab 11)

53. On 6 March 1997, Mortenson withdrew its final decision request, and many others, without prejudice to refiling, to enable the parties to focus upon project completion and potential resolution of the disputes (R4, tab 10).

54. This dispute was not resolved and, on 26 May 2000, Mortenson filed a $7,595 claim with the CO alleging that the alleged drawings' conflict and need for additional framing were not obvious and had not been evident to the government or its designers "despite months of design review of the drawings" (R4, tab 3 at 3-4).

55. On 8 August 2000 the CO denied the claim, alleging that there was no defective design; the drawings did not depict where stud framing was to begin or end;

and Mortenson had not coordinated precast embed locations with the metal stud framing subcontractor to avoid conflicts during framing layout and erection of the precast panels (R4, tab 1 at 2, 9-10).

56. According to Mr. Kloepfer, "[i]n reviewing the plan drawings and documents pertinent to the scope of framing in the central plant, there was no way to identify the conflict between the stud framing and the precast embeds. Accordingly, PPSI did not account for the conflict in its bid" (Kloepfer aff., ¶ 11).

57. Mr. Klopefer has not addressed the embed placement coordination requirements of TS 03450 and Drawing No. S8.01 and what, if any, efforts were made to comply (*see* findings 42, 46). Appellant has not submitted any evidence, or any sworn statement, in that regard from Mortenson personnel or from the subcontractor responsible for embed placement.

DISCUSSION

Continuing to dispute the relevance of the contract's coordination provisions, appellant contends that the contract drawings are defective because the "drawing dimensions defined specific spacing for stud framing and specific locations for precast embeds," resulting in a conflict "between the precast connection locations and the stud framing" (finding 52). Appellant now alleges that the "need for additional framing and the conflict on the drawings were not evident to the Government or its designers despite years of design review of the drawings" (app. br. at 32). Again, because there is no evidence concerning the extent of design review performed before the invitation for bids issued (finding 1), we do not address this aspect of appellant's argument.

The government counters that the contract does not direct the contractor where to place the embedded items, but that the contractor is to determine placement, coordinating the location of the embedded items in floor slabs and precast units to avoid conflicts during erection. It contends that the conflicts for which appellant seeks recovery resulted from its failure to so coordinate, and not from a design deficiency.

Appellant has not directed us to any specifications or drawings, and we have not found any that clearly call for specific placement of embeds. Rather, the precast architectural concrete specifications require coordination of the precast work with the other trades and make the contractor "responsible for coordinating and locating all the embedded items in the floor slabs and the precast units to avoid any conflict during erection" (finding 42). The contractor is to provide detail drawings, including installation details, that show connections to the precast units. Accessories to be embedded in the precast units are to be installed in accordance with approved detail drawings and accurately positioned in their designed location, and embedded items are to be "accurately located." (*Id*.)

The precast architectural concrete specifications incorporate the CQC specifications, which require that the contractor's quality control system manager conduct a preparatory quality control phase, prior to beginning work, and review applicable specifications and drawings at that time (finding 7). They also incorporate the concrete for building construction specifications, which state that, before placement of concrete, care is to be taken that embedded items are fastened in place "as indicated on the drawings, or required" (finding 43). The submittal specifications note that, under the contract's CQC requirements, the contractor is responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work (finding 6).

The contract drawings we have found that depict embeds, while scaled, cross reference other drawings with respect to embed locations. The referenced drawings are not in the record. (Findings 46, 47) Drawing No. S0.02 states that the contractor is to coordinate dimensions, embedded items, and conditions with the architectural, mechanical and electrical drawings and trades prior to construction and that all details are typical and to be incorporated at appropriate locations whether or not specifically indicated (finding 45). Drawing No. S8.01, which covers building precast elevations and depicts embed plates, states that embeds occur on the interior face of precast panels and refers the contractor to the drawing details to determine conditions. It notes that dimensions shown on the drawing are for design intent and bidding purposes only and that the contractor is responsible for detailing the units. Like the precast architectural concrete specifications, drawing Note 2 emphasizes that the contractor is "RESPONSIBLE FOR COORDINATING AND LOCATING ALL THE EMBEDDED ITEMS IN THE FLOOR SLABS AND THE PRECAST UNITS TO AVOID ANY CONFLICT DURING ERECTION." (Finding 46)

While portions of some the above specifications and drawings suggest that there could have been designed locations for embeds, they are not clear, and we have not been able to verify this. However, regardless of whether there was a conflict between embed placement and specified stud spacing in the contract drawings, appellant has not addressed, or submitted any sworn statements or evidence with respect to, the contract's detail drawings and embed placement coordination requirements and what, if any, efforts it made to comply (*see* findings 42, 57). Therefore, appellant has not established that it complied with the contract's requirements, but that, nevertheless, the alleged embeds conflict could not be remedied without the additional framing for which it seeks compensation.

DECISION

ASBCA No. 53107 is denied.

ASBCA No. 53108
(Electrification of Integrated Door 1D138B)

This appeal involves Mortenson's $3,401 claim for costs to provide electrical circuitry, door controls and push plates for integrated door 1D138B; drywall subcontractor remobilization; and taping, painting and ceiling grid touch-ups.

FINDINGS OF FACT

58. The contract's Door and Frame Schedule calls for Hardware Set 31 for door 1D138B and describes it as integrated, with a push plate (PP) wall switch (Bd. ex. 1, vol. 4 at 08000-3, 08000-33). The schedule calls for the same hardware set and gives the same description for nearby door 1D127A (*id*., at 08000-32; *see* R4, tab 22). For door 1D138A, an automated door in the same corridor as 1D138B, the schedule calls for a different hardware set, with PP (Bd. ex. 1, vol. 2, § 08700 at 58, vol. 4, § 08000 at 33).

59. TS 08700, BUILDERS' HARDWARE, describes Hardware Type 31, applicable to doors 1D138B and 1D127A, as each including two cylinders, one auto operator, and two push buttons, and as covering integrated door systems, for which the specification refers to TS 08329 (Bd. ex. 1, vol. 2, § 08700 at 1, 29).

60. TS 08329, INTEGRATED DOOR ASSEMBLIES, paragraph 1.3.2, SD-04 Drawings, calls for "FIO" door assembly drawings from the contractor "indicating each door and frame condition; frame type, profile and installation details; items of finish hardware; finishes and electrical rough-in requirements" (*id*., § 08329 at 1-2). Paragraph 2.2.2, Hardware Group 31, calls for two each exit devices, closers, stops, shear locks, and one each power supply and, at Note 1, states: "All electrical wiring to be supplied by electrician" (*id*., at 3).

61. TS 16011, ELECTRICAL GENERAL REQUIREMENTS, quoted in part at finding 17, applies to "all sections of Division 16, ELECTRICAL," of the specifications unless otherwise specified (Bd. ex. 1, vol. 3, § 16011 at 1). Paragraphs 1.4.1 and 1.5.1 call for drawings review by all trades and for coordination drawings and efforts. Paragraph 1.8, ELECTRICAL REQUIREMENTS, states:

> Furnish motors, controllers . . . with their respective pieces of equipment, or as otherwise indicated on the drawings . . . . Motors, controllers . . . shall conform to Section 16415 ELECTRICAL WORK. . . . Provide power wiring and conduit for field installed equipment, and motor control equipment forming part of motor control centers or switchgear assemblies, the conduit and wiring connecting such centers, assemblies, or other power sources to equipment

> under Section 16415 ELECTRICAL WORK. Provide control wiring and conduit under and conform to the requirements of the section specifying the associated equipment.

(*Id*., at 4)

62. TS 01440, CONTRACTOR QUALITY CONTROL, states at paragraph § 3.4.2.3:

> b. Electrical engineer – at least one registered electrical engineer shall physically be on site full time from the date that electrical submittals are ready for review, or from the date of commencement of any work activities related to electrical installations, whichever is earlier, until those work activities have been completed. The electrical engineer shall have specific responsibility for submittal review, verification of installations, checkout, testing . . . and inspection of electrical installations.

(Bd. ex. 1, vol. 1, § 01440 at 5)

63. Drawing No. A2.215, FIRST LEVEL AREA '1D3' FLOOR PLAN, shows corridor 1D138 and door 1D138A, a single door, with a PP on a wall near the door. Door 1D138B is shown as a double door with opposite swinging sides, and no separate PP designation. Door 1D127A, the nearby door similar to 1D138B, is shown as a double door, with a PP on a wall close to the door. (R4, tab 22)

64. Drawing No. E3.215, FIRST LEVEL AREA '1D3' POWER PLAN, shows a circuit and junction box designated "Door Operator" for door 1D127A, but not for door 1D138B (R4, tab 23). On the wall near door 1D127A the drawing shows automatic door control stations (*see* R4, tab 21). It does not show one for door 1D138B.

65. By letter to the ACO dated 3 December 1997, Mortenson noted that door 1D138B had been supplied with the required auto operator but that Drawing No. E3.215 did not provide power for an operator and PP at that location (R4, tab 4).

66. The ACO responded on 19 December 1997 that Hardware Set 31 called for the automatic operator and PP and TS 08329 (*see* findings 58-60) required the electrician to supply all electrical wiring for the integrated door. The ACO specified the location for two PP and stated that power was to be from a circuit that powered a nearby door, giving Mortenson the option to propose any more convenient circuit. (R4, tab 5)

67. On 27 May 1998 Mortenson sought a $3,462 change order on its own behalf and for alleged extra costs incurred principally by its subcontractors ALCAN Electrical & Engineering, Inc., PPSI, and Wasche Commercial Finishes, Inc. The ACO denied the request on 4 June 1998 on the basis that Hardware Set 31 and TS 08329 clearly required powering door 1D138B. (R4, tabs 7, 8) On 26 May 2000 Mortenson submitted a $3,401 claim, stating that it had discovered the lack of electrification to the integrated door in performing its punchlist efforts and that the designer had sole responsibility for assuring that the contract reflected that all motorized equipment was to have power and control circuitry (R4, tab 3). The CO denied the claim on 8 August 2000 (R4, tab 1).

68. Mr. Kloepfer swears in his brief, general, affidavit in support of the claim that: "A review of the contract documents available to PPSI at bid time shows that Door 1B138B was not reflected as being electrified" (Kloepfer aff., ¶ 6). He does not identify the documents reviewed, who reviewed them, or when.

DISCUSSION

Appellant contends that it was not required to supply the items necessary for the electrification of integrated door 1D138B because they are not depicted on the contract drawings. The government acknowledges that Drawing No. E3.215 does not show a junction box, power circuit, or automatic door control station for door 1D138B, but it asserts that, when the contract is read as a whole, it is clear that the items are required.

Appellant's contract interpretation is not reasonable. Although the drawings do not depict push plates, a junction box, or an automated door control station for door 1D138B, they do depict them for the other door in the same corridor -- door 1D138A -- and for nearby integrated door 1D127A, which is similar to door 1D138B (findings 59, 63, 64). This, alone, should have caused the contractor, through its required onsite electrical engineer (finding 62) or otherwise, to inquire before installing door 1D138B. In fact, when Mortenson performed its punchlist check, it realized that the door should have been electrified (finding 67). Under the omissions and misdescriptions paragraph (d) of the Contract Drawings clause, omissions from the drawings that are manifestly necessary to carry out the intent of the specifications and drawings are to be performed by the contractor as if they had been included in the drawings (finding 4). In this case, the drawing omissions at issue should have been obvious. *See M.A. Mortenson Co.*, ASBCA Nos. 50716 *et al.*, 99-1 BCA ¶ 30,270 at 149,692.

Further, the contract's Door and Frame Schedule calls for Hardware Set 31 for door 1D138B and describes it as an integrated door with push plate, just as it does for electrified door 1D127A (finding 58). TS 08700, describing Hardware Set 31, and TS 08329, to which TS 08700 refers for integrated door systems, call for electrified doors with auto operators, push buttons and power supplies and for all electrical wiring to be supplied by the electrician. The contractor's door assembly drawings are to include

electrical rough-in requirements. (Findings 59, 60) Paragraph 1.8 of TS 16011, which sets forth general electrical requirements, requires the contractor to provide power wiring and conduit for field-installed equipment and control wiring and conduit to conform to the requirements of the specification covering the equipment (finding 61). TS 16415, concerning interior electrical work, addressed in our general findings, requires the contractor to "provide all power related wiring even if it is not shown on electrical drawings" (finding 19).

In sum, in addition to the fact that the drawing omissions noted above were obvious, the contract's general provisions and specifications require that appellant supply the electrical circuitry, door controls and push plates for integrated door 1D138B for which it seeks extra compensation.

DECISION

ASBCA No. 53108 is denied.

ASBCA No. 53109
(Rough-In for X5301 Film Processor)

This appeal involves Mortenson's $836 claim for costs of remobilization, framing, sheetrock and taping work in hospital Room 2E117 to install a government-furnished X5301 Film Processor.

FINDINGS OF FACT

69. Unilateral contract Modification No. P00140, dated 29 July 1996, among other changes, called for installation in Room 2E117, the X-Ray Film Process Room, of a dedicated duplex receptacle for a government-furnished X5301 Table-Top Daylight Processor (the X5301), shown on Sketches No. 69-04 (A) and 69-05 (A), among others.

70. On 10 September 1996 the ERO issued unilateral Modification No. P00172, which, among other changes and sketches, attached Sketch No. 305-11 pertinent to silver recovery piping changes in Room 2E117 (R4, tab 18).

71. PPSI was in the process of framing Room 2E117 when it was discovered that additional information would be needed before framing studs could be accurately spaced for the X5301 installation (*see* R4, tab 3 at 1; Kloepfer aff., ¶ 5).

72. On 8 November 1996 Mortenson submitted RFI No. 2435 requesting rough-in information for the X5301 by 12 November (R4, tab 4). On 25 November Mortenson received the ERO's response, dated 22 November 1996, which stated:

> Plumbing/vent rough-in information has been provided in Modification P00140, Sketches 69-04 (A) and 69-05 (A) and silver recovery by Mod. P00172, Sketch 305-11. To supplement this information, "Site Specifications" for KODAK M35A X-OMAT processors are attached. Per TS 15405-3.2.1, the P2451 mixing valve (without cabinet) shall be at 4' 6" AFF. Route DCW/105° supplies concealed down to valve elevation, coordinate separation to allow for the valves, filters, etc. as shown in 5/M6.06, and provide a means for adequately anchoring the mixing valve to the wall. The tempered water supply from the valve shall be exposed and terminated with a 3/4" hose adapter. All pipe, valves, and fittings exposed to view shall be chromium plated per TS 15405-2.4. Route vent down in wall and provide a 4" [ ] outlet centered @ 12" AFF. Processor installation and connections shall be by the user.

(*Id*.) The attached site specifications included 23 pages (R4, tab 3).

73. The government asserts that the unilateral modifications provided the necessary information for the Room 2E117 rough-in work, but it has not elaborated or supported its assertion with a sworn statement. Moreover, the assertion is undercut by the ERO's RFI response, which provided more information (finding 72). Thus, on the record before us, we find that the modifications did not provide all of the necessary information for Room 2E117 rough-in work.

74. On 25 February 1997 Mortenson sought an $835 change order for remobilization of the sheetrocker to Room 2E117 and for additional taping around a duct opening. Mortenson stated that, by the time the ERO answered the RFI, sheetrock installation had already commenced through the affected area of the building and, after the mechanical rough-in was complete, the sheetrockers had to remobilize to Room 2E117 to close it up. (R4, tab 6) On 25 March 1997 the ACO denied the request on the grounds that the RFI response was a minor clarification; layout, work coordination, and trades management was the contractor's responsibility; and, if layout had been timely performed, the clarification could have been requested and provided with no need to demobilize (R4, tab 7).

75. On 26 May 2000 Mortenson submitted an $836 claim, for its own costs and those of its subcontractors PPSI and Klondike Painting & Decorating, stating that PPSI had been framing Room 2E117 when it discovered the need for additional information; it had performed its room layout appropriately, but that stud spacing is not done until framing is installed; it could not complete its stud placement work and was forced to demobilize; and upon receipt of the RFI response and specific vendor data, it remobilized

and completed the work (R4, tab 3). The CO's 8 August 2000 final decision denied the claim essentially on the bases stated above (finding 74) and alleged that the RFI response had been timely (R4, tab 1).

76. In his affidavit, Mr. Kloepfer confirms the contention in appellant's claim that "stud spacing layout occurs during the actual stud framing" (Kloepfer aff., ¶ 10), and he asserts that mobilizing to Room 2E117 twice and the associated work caused extra costs (*id*., ¶¶ 7, 8).

DISCUSSION

Appellant alleges that the government's specifications and plans are defective because they omit required design information concerning the government-furnished X5301 processor for Room 2E117. It asserts that the omission could not be determined until PPSI was involved in framing activities, because specific spacing of studs is not performed during layout but occurs as the framing itself is installed.

The government alleges that the unilateral modifications provided the necessary information for Room 2E117 rough-in work, but we have found otherwise (finding 73). The government also contends that the information appellant sought was minor. It alleges that, had appellant and its subcontractors adequately reviewed the modifications before commencing work in Room 2E117, per TS 01440, paragraph 3.6.1 (*see* finding 7), any necessary additional details could have been noted and the information requested and provided in time to avoid demobilization.

We are unable to determine on this record whether the information appellant sought was "minor," but the government eventually supplied 23 pages of vendor material and other supplemental information and guidance (finding 72). In any event, the government's contention that appellant should have known before framing started that it needed more information is not supported by a sworn statement, whereas appellant's assertion that it could not have discovered the design omissions until after it began framing and actual stud spacing is backed by Mr. Kloepfer's unrebutted affidavit (*see* findings 75, 76; *see also* app. br. at 73-74, proposed finding a). The preponderance of the evidence supports appellant's claim.

DECISION

ASBCA No. 53109 is sustained and remanded for quantum resolution.

SUMMARY

ASBCA Nos. 53105, 53106, 53107 and 53108 are denied. ASBCA No. 53109 is sustained and remanded for quantum resolution.

Dated: 17 August 2004

CHERYL SCOTT ROME
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

MARK N. STEMPLER
Administrative Judge
Acting Chairman
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. 53105, 53106, 53107, 53108 and 53109, 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