DESIGN ANALYSIS

U.S. ARMY
CRIMINAL INVESTIGATION COMMAND

(CATEGORY CODE 14114)

ADAPT-BUILD BIM PROTOTYPE OF THE

BATTALION HEADQUARTERS FACILITY FOR THE REGION

REPRESENTED BY FORT LEWIS, WASHINGTON

Prepared by:

Parsons Brinckerhoff

6161 Kempsville Circle

Norfolk, Virginia 23502

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EXECUTIVE SUMMARY

This Design Analysis has been prepared for the U.S. Army Criminal Investigation Command (CIDC) Battalion Headquarters Adapt Build facility. The Battalion Headquarters building has been developed for a generic site at Fort Lewis, Washington. This document presents the design objectives, general information, design criteria and assumptions, and technical calculations for the project.

This Design Analysis has been developed in association with the Building Information Model (BIM) of the Battalion Headquarters Adapt Build facility. The project drawings are contained as 'sheets' within the BIM, with the exception of the Site Plan. The CIDC BIM Execution Plan is an important document which is to be used in conjunction with this Design Analysis.

The Design Analysis and Adapt Build BIM are intended as a guide to an A/E who is designing a CIDC project, and intended to establish a consistent baseline for new facilities. As a design professional the A/E is responsible for designing the project in accordance with all federal requirements and sound architectural and engineering practice. Creative interpretation of this work is encouraged as each future CIDC project shall be located at a unique location, and may have some unique requirements and features.

[NOTE to AE: The CIDC Building Design Criteria provides the basic guidelines for evaluation, planning, programming, and designing new and renovated CIDC facilities. The criteria contained in that document establish the baseline level of features to be provided in these facilities. Planning, design, operation and maintenance of CIDC facilities shall comply with Army Military construction (MILCON) requirements, MILCON Best Practices, Corps of engineers, Norfolk District (NAO) Design Guidelines, and the Activity's Installation Design Guide.

Design and construction shall use the latest Unified Facilities Criteria (UFC), Unified Federal Guide Specifications (UFGS) and other applicable codes, regulations, Technical Instructions and Manuals, and criteria. The document is intended to supplement other applicable codes and standards, without repeating the common requirements found in those documents.

Note that the design shall comply with ANSI/ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings.]

1 GENERAL DESCRIPTION

1.1 FACILITY DESCRIPTION

The U.S. Army Criminal Investigation Command (CIDC) is the Army's primary investigative organization and the premier investigative organization of the Department of Defense. The CIDC is responsible for conducting criminal investigations in which the Army is, or may be, a party of interest. Investigations range from death to fraud to computer crime, and can occur both on and off of military installations.

The CIDC deploys highly trained special agents and support personnel, a certified forensic laboratory, protective services units, computer crime specialists, polygraph services, criminal intelligence collection and analysis, and a variety of other services normally associated with law enforcement investigation activities.

The CIDC buildings are Category Code 14114 facilities. A Project Tracking Sheet is in Appendix A.

1.1.1 Battalion Headquarters Building

The Battalion Headquarters facility is comprised of command, operation and administrative functions, special functions and services, and Classroom components. In the Fort Lewis Battalion Headquarters space is provided for the following activities:

- Command
- S-1 Human Resources
- S-2 Intelligence Surveillance & Reconnaissance
- S-3 Coordinating Staff Office – Operations, Plans and Training)
- S-4 Logistics Operations Office
- S-6 Information Management Office
- COF Company Operations Facility

The estimated occupancy of the Battalion Headquarters is 50 people.

1.1.2 Building Occupancy

The CIDC Battalion Headquarters building is classified as a Business Occupancy (Group B).

1.1.3 Building Construction

Based on building size, the construction type shall be Type IIB (Non-combustible, Unprotected) as defined by the International Building Code. (Also see section 2.6 Fire Protection)

1.1.4 Accessibility Requirements

The CIDC Battalion Headquarters facility is designed and shall be constructed to meet Department of Defense accessibility standards as presented in the ABA/ADA Guidelines.

1.1.5 Site Design and Construction

ABA/ADA compliant access from the parking areas and site walks to the building shall be provided.

Accessible parking stalls and pathways for both staff and visitor parking areas shall be provided.

Accessible vehicle parking signage and pavement markings shall be provided.

Parking areas located within the secure (fenced) government-vehicle parking area shall be used only by able-bodied personnel in government vehicles and are not required to meet accessibility requirements.

1.1.6 Facility Design and Construction

The main building entrance and secondary entrances, located outside of the secure (fenced) government vehicle parking area, shall be accessible.

Provide ABA/ADA required clearances and door approach clearances in the building main entrance as well as at secondary entrances located outside of the secure (fenced) government vehicle parking area.

Accessible drinking fountains and Break Room facilities shall be provided.

Accessible Public Restroom facilities, located near the Main Entrance, shall be provided.

1.1.7 Building Area

The maximum authorized gross building area for the Battalion Headquarters facility is 16,381 square feet.

1.1.7.1 Area Definitions

Gross Area: Gross building area is measured to the outside face of exterior enclosure walls. Gross area includes floor areas, penthouses, mezzanines, and other spaces as noted below:

Half Space: Areas calculated as half space. Gross building area shall be calculated in accordance with TI 800-01 Design Criteria – Appendix B, CIDC:

Excluded Space: Some spaces are excluded from the gross area calculations, including roof overhangs used for weather protection, mechanical equipment platforms, and catwalks.

Net Area: Net area is measured to the inside face of the room or finish walls.

Net Area Requirements: Net area requirements for programmed spaces are included in this chapter. If net area requirements are not specified, the space shall be sized to accommodate the required function and to comply with code requirements, overall gross area limitations, and any other requirements.

1.1.8 Common Area

Public Restrooms are located adjacent to the Lobby area and shall comply with the ABA/ADA accessibility requirements.

Vestibules are provided as enclosed transition spaces between the outdoor environment and the building interior. A minimum distance of 7 feet is provided between the interior and exterior Vestibule doors.

Mechanical, Electrical, SIPRNET and Telecomm Rooms: The Mechanical Room is designed to allow space for equipment maintenance and repair access without having to remove other equipment. Mechanical, Electrical and Telecommunications Rooms shall be keyed separately for access by maintenance personnel.

Exterior access only is provided for the Mechanical and Electrical Rooms. The sizes of the Telecommunications Rooms (TR) for the Battalion Headquarters facility comply with the minimum requirements of I3A (2.5.2) and ANSI/TIA/EIA-569-B. Because the gross area of the facility exceeds 10,000 square feet an additional TR was included. In addition, a 6-foot by 6-foot SIPRNET room, located adjacent to the main Telecommunication room, was included in accordance with the "Technical Guide for the Integration of Secret Internet Protocol Router network" version 5 dated 11 August 2008.

Recycling Storage: A Recycling Storage area is provided in the building. The Recycling Storage area is sized to accommodate recyclable containers, with adequate circulation space to allow access to move each container in and out of the Recycling Storage area.

Materials to be recycled include paper, corrugated cardboard, glass, plastics, and metals. An area shall be provided for collection and storage of fluorescent and HID lamps and ballasts.

2 DESIGN REQUIREMENTS AND PROVISIONS

The CIDC Facilities Building Design Criteria provides the basic guidelines for evaluating, planning, programming, and designing new CIDC facilities. The criteria contained in this document establish the baseline levels of features, spaces and finishes to be provided in these facilities. Planning, design, operation and maintenance of CIDC facilities shall comply with Army Military Construction (MILCON) requirements, MILCON Best Practices (MBP), and Corps of Engineers, Norfolk District (NAO) Design Guidelines. Design and construction shall use the latest Unified Facilities Criteria (UFC), Unified Federal Guide Specifications (UFGS) and other applicable codes, regulations, Technical Instructions and Manuals, and criteria.

- U.S. Army Corps of Engineers Criminal Investigation Command (CIDC) Facilities Building Design Criteria, 12 December 2011
- Architectural Barriers Act (ABA/ADA) Accessibility Standard for Department of Defense (DoD) Facilities; as directed by Secretary of Defense Memorandum, 31 October 2008
- Army Regulation (AR) 405-70 Utilization of Real Property
- AR 420-1 Army Facilities Management
- AR 195-5 Evidence Procedures
- AR195-6 Department of the Army Polygraph Activities
- AR 190-11 Physical Security of Arms, Ammunition, and Explosives
- Technical Criteria for the Installation Information Infrastructure Architecture,
- (I3A Technical Criteria), dated February 2010
- Fort Lewis Installation Design Guide
- Technical Guide for the Integration of the Secret Internet Protocol Router Network (SIPRNET) published by USAISEC Criteria
- UFC 1-200-01 Design: General Building Requirements
- UFC 3-120-10 Comprehensive Interior Design
- UFC 3-400-01 Energy Conservation (with 2008 revisions)
- UFC 3-520-01 Interior Electrical Systems
- UFC 3-530-01 Design: Interior and Exterior Lighting and Controls
- UFC 3-550-01 Exterior Electrical Power Distribution
- UFC 3-600-01 Fire Protection Engineering for Facilities
- UFC 3-580-01 Telecommunications Building Cabling Systems Planning/Design
- UFC 4-010-01 Department of Defense Minimum Anti-terrorism Standards for Buildings

- UFC 4-021-01 Design and O & M: Mass Notification Systems
- National Fire Protection Association (NFPA) Codes and Standards

2.1 SITE PLANNING AND CIVIL ENGINEERING

2.1.1 Site Planning and Civil Engineering

NOTE to Civil AE site designer from the developers of the Criminal Investigative Command (CIDC) prototype.

The site designer for the CIDC facility must have an understanding of the user's requirements, the governing design criteria requirements and the local requirements. You are responsible for integrating these elements (and more) into the final site design. The design shall be in accordance with CIDC Building Design Criteria, the US Army Corps of Engineers Design Guide, the Base Installation Design Guide, and the pertinent Unified Facilities Criteria.

The Criminal Investigative Command (CIDC) Building Design Criteria contains information specific to the user. Overall design guidance is located in Chapter 1. Site planning and civil engineering criteria are located in Chapter 3.

The USACE Norfolk District Design Guide (NAO DG) provides design criteria requirements for the development and preparation of the contract documents. These include plans, specifications and the design analysis. The NAO DG contains discipline specific sections (e.g. Civil, Architectural, Mechanical, and Electrical). Each section includes a detailed outline of the criteria requirements for the corresponding discipline.

Project Specific Information

The CIDC Adapt/Build documents were developed to varying levels of design effort. The Architectural component was developed to about 60%. The remaining engineering disciplines, with the exception of Civil, were developed to between 30%-35% design levels. Without a specific site to reference the Civil portion was limited to a 10% design level. The Civil AE is responsible for developing the site design from site selection to final development after a specific site has been selected.

The site plan depicted in the Adapt/Build prototype is a schematic site plan. It indicates the general quantities and relationships of visitor parking, staff parking and secure government vehicle parking as well as antiterrorism/force protection (ATFP) setbacks and unobstructed zones around the building.

The following comments are intended to emphasize and clarify certain design elements for the site designer:

1. *Site Geometry:*
    a. *The portion of drive between the staff parking and the visitor parking may be omitted if access to both can be otherwise accommodated (i.e. by virtue of location on a corner lot)*

and if the Local Authority Having Jurisdiction (AHJ) does not require it for emergency perimeter access.

2. *Secure Government Vehicle Area*
    a. *There are two vehicle access points depicted on the prototype site plan. One is a sliding motor-operated gate. The other is a double swing gate.*
        i. *The emergency double swing gate access need not be provided if not required by the AH. The designer is to verify these requirements. The preference is generally to omit this feature if not required by the AHJ.*
        ii. *The sliding motor-operated vehicle gate with access control. Site designer to confirm type of security access (key pad, card reader, etc) with user. Coordinate fire department access requirements with the Base Fire Marshall.*

    b. *The location of outdoor mechanical/electrical equipment, including transformer and future mobile generator may only be adjusted in consultation with the CIDC proponent and the USACE CoS District and upon written consent of both. These items must remain within the CIDC secured area.*

    c. *The fence around this area is to be 8 feet high with no barbed wire on top.*

    d. *There are two sizes of parking spaces in the secured parking area: government sedan (9'x18') and HUMVEE (12'x18'). The designer is to design for the number of each vehicle type, developed in collaboration with the user.*

3. *Weapons Clearing Barrel*
    a. *Two weapons clearing barrels shall be located on site. One shall be located at the entrance to the building from the secure government vehicle area. The other shall be located at the entrance to the building from the Staff parking area. Confirm the exact location at each entrance with the user.*

4. *ATFP*
    a. *The building is currently classified as "Inhabited" for Stand-off distance determination in accordance with the definitions provided in UFC 4-010-01 dated 9 February 2012. These plans are based on the prototype. The designer is responsible for confirming building classification based on current version of UFC 4-010-01.*

2.1.2 Site Lighting

The backlight and glare ratings of building-mounted luminaires and all other luminaires shall comply with ASHRAE 189.1-2009, Table 5.3.3.2B and Table 5.3.3.2A, respectively.

All exterior lighting shall comply with either the maximum uplight ratings of Table 5.3.3.2A or the uplight requirements of Table 5.3.3.3, both of which are found in ASHRAE 189.1-2009.

Site lighting sources shall be fluorescent and metal halide with good color rendition. Outdoor lighting levels are accordance with the Illuminating Engineering Society of North America (IESNA) Lighting Handbook illumination levels.

Site lighting shall be controlled by photocells, motion sensors, and timers for energy conservation.

Coordinate the exterior lighting design and controls with the Base (Installation). The exterior lighting for the main entrance and lighting for the building identification sign shall be on at night. Other exterior lighting shall be controlled by motion sensors.

2.2 STRUCTURAL ENGINEERING

2.2.1 General

The CIDC Battalion Headquarters is a one-story steel framed structure with a spread footing foundation. The building is located at the Army base in Fort Lewis, Washington, 47.11°N 122.56°W.

The footprint of the building is rectangular in shape and measures approximately 90 ft by 175 ft. The building walls, both interior and exterior, are non-load resisting elements except for wind cladding or designed lateral pressure.

2.2.2 Framing System

The building is a steel framed structure with hollow structural section (HSS) steel columns and wide flange steel beams at the eave elevation. Triangular cold formed steel trusses shall form the gabled roof profile and the various dormers.

Braced frames provide lateral load resistance and columns are designed with fully pinned fixity at the base.

A steel frame structural system is selected for the CIDC prototype buildings as it is the most common type of structural system throughout the United States, and common in many parts of the world. Alternative structural systems include cast-in-place reinforced concrete and load bearing masonry. While these systems are used in some geographic areas, they are not common in all areas where a prototype building may be constructed.

A steel frame system has the advantage of allowing relatively flexible interior planning. For the prototype Battalion Headquarters, developed for Fort Lewis, Washington, the steel frame system is selected based on the seismic requirements of this region. A load bearing masonry system is too heavy for use in high seismic areas. In contrast, the steel frame structure is very efficient.

The typical roof form of the prototype buildings is a hip or gable roof form with a slope of 4:12 to 6:12. This roof form is commonly and efficiently constructed with prefabricated light gauge steel trusses.

A precast concrete structural system is not considered a good choice for the prototype, since the CIDC buildings are relatively small (Battalion HQ is the largest at approximately 16,000 square feet). In addition, the cost effectiveness of this type of system is extremely dependent on the proximity of the site to a precast concrete plant.

Another advantage of a steel frame system is that steel is a commonly recycled product. It is likely that a new CIDC building built with a steel frame would have a high content of recycled material. The American Institute of Steel Construction estimates that structural steel beams and columns produced at U.S. mills has a recycled content above 80%. In addition, when the building is dismantled in the future, 50 or more years from now, the steel structural components can be easily recycled (or reused). Masonry and concrete structures do not have the same environmental advantages.

2.2.3 Foundation

Gravity load and lateral load are delivered to the columns that are supported by the concrete footings. Typically the top of footing shall be 1.5 ft below finished floor for interior and exterior footings. The design frost line is 9 inches below soil cover.

For gravity loads (Dead and Live Loads), strip and column footings supported on undisturbed native soil stratum or structural fill with proper compaction can be designed for net allowable soil bearing capacities of 2,000 pounds per square foot (psf) for service loads. Allowable soil bearing capacities for transient loads (Wind and Seismic Loads) are permitted to increase by 30% to approximately 2,700 psf.

The ground level slab-on-grade shall be designed to meet the load requirements. The floor slab shall be designed as “floating”, ground supported and without fixed connections to columns or perimeter walls. Contraction joints are provided to control shrinkage crack pattern. Although the slab is designed as unreinforced slab, 0.1% of steel reinforcement is provided by either wire mesh or rebar. Vapor barrier shall be provided under the concrete slab.

There are no special features at this time. Framing is conventional, although the high seismicity of the design region shall require special attention with respect to detailing and specifications as the design is taken to a greater level of completion. Final foundation design shall be confirmed based on the findings of the geotechnical report.

2.2.4 Special Features

There are no special features at this time. Framing is conventional, although the high seismicity of the design region shall require special attention with respect to detailing and specifications as the design is taken to a greater level of completion.

2.2.5 Force Protection System

The building envelope shall meet the ATFP criteria governed by section B.3 of UFC 4-010-01. Glazed openings on the exterior walls shall be designed for blast pressure. Since the building is within a controlled perimeter and has a standoff distance of 82 ft. The structural frames for the glazed openings shall therefore be designed for type II explosive. The design criterion shall be “low level of protection”.

2.2.6 Fire Resistance

A Fire Rating of 0.0 hours has been assigned to column and roof elements. (Also see section 2.6 Fire Protection)

2.2.7 Design Criteria

This building satisfies the design specifications of IBC 2006 and ASCE-7.

2.2.8 Load Assumption

2.2.8.1 Dead Load

Actual calculated weight of permanent construction per SEI / ASCE-7.

2.2.8.2 Live Load

Minimum live load allowances are determined per IBC and parameters provided by USACE NAO.

2.2.8.3 Snow and Roof Live Load

Design Ground snow load is 15 psf. The roof live load of 20 psf shall control over the Flat Roof Snow Load of 10.5 psf. The effects of snow drift and unbalanced snow load are not considered due to the geometry of the roof.

2.2.8.4 Wind Load

Basic wind speed shall be 85 mph, based on a 3-second gust, and Importance factor 1.00, Exposure Category "C". Buildings are designed as enclosed structures.

2.2.8.5 Seismic Load

According to the calculation from USGS, S_s=117.00%g and S_1=41.00%g for this site. This yields a Seismic Design Category D.

Site Class D has been chosen at this time. Seismic loading shall be confirmed using the findings of the geotechnical report.

2.2.9 Material Properties

2.2.9.1 Concrete Strength

Footings	f'c = 4,000 psi
Foundation walls and pedestals	f'c = 4,000 psi
Ground floor slab	f'c = 4,000 psi
All concrete not otherwise specified	f'c = 4,000 psi

2.2.9.2 Reinforcing Bars

ASTM A 615 Grade 60, Deformed	fy = 60 KSI

2.2.9.3 Masonry

Design masonry assemblage strength	f'm = 1,500 PSI

2.2.9.4 Steel

Wide flange shapes - ASTM A 992,	fy = 50 KSI
Tube shapes - ASTM A 500 Grade B,	fy = 46 KSI
All other structural steel - ASTM A 36,	fy = 36 KSI
Welding electrodes - AWS D1.1,	E70XX

2.2.10 Structural Calculations

See Appendix C.

2.3 ARCHITECTURE

2.3.1 General

The design shall be in accordance with the current version of the Unified Facilities Criteria UFC 1-200-01 Design: General Building Requirements and other applicable criteria, codes and standards.

2.3.2 Goals and Objectives

Overall architectural goals for the facility are to provide a functional, visually appealing facility that is a source of pride for facility users, and the installation, and which meets the functional requirements of the CIDC mission. The Battalion Headquarters buildings are designed and shall be constructed to be:

- compatible with the surrounding Fort Lewis Madigan District architectural standards
- technically sound building components and systems
- a safe and healthy work environment
- durable and easily maintained over a 50 year projected life

2.3.3 Exterior Design

The exterior materials, roof forms, and detailing are based on the approved Installation Design Guide and are compatible with the local context. The finish colors are similar to other buildings in the Fort Lewis Madigan district. Brick is used as the primary exterior material. The proposed gable roof form and masonry end walls are similar to local buildings. Dormers are used to allow daylight within the interior of the building at selected locations.

2.3.4 Entrances

Building entrances are readily identifiable. Entry materials at the primary entrance include brick pavers, brick masonry walls, limestone lintel, metal panels, and a standing seam metal roof. Secondary entrances are provided with a cantilevered canopy roof for protection from adverse weather. All entrances shall be accessible.

2.3.5 Exterior Windows and Doors

Windows shall comply with the requirements of UFC 4-010-01 Design: Minimum Antiterrorism Standards for Buildings. The common window is an operable casement window with insect screens, and a fixed glass panel above.

Exterior shading is provided at most windows by sunshades. Glazing shall contain special coatings (i.e. Low-E) to meet the energy performance requirements defined in section 2.5. Reflective glass coatings shall not be used.

Windows in the high dormers shall be provided with electrical operators for window sash and for the blinds.

2.3.6 Exterior Façade

The exterior envelope shall be standard size brick, with a brick water table at the floor line and projecting brick rowlock courses below the fascia. Cold-formed steel studs and sheathing provide the 'back-up' to the brick, and to the metal siding used at the dormers and gable end.

Decorative brick patterns are used in select locations.

2.3.7 Roofing

The proposed roof system is an architectural standing seam metal roof. The standing seam roof panels are installed over a water protection membrane and over roof sheathing. Ribs are spaced 20 inches on center. Ridge vents are fabricated from the same material as the roof.

2.3.8 Rain Water Harvesting

The rainwater harvesting system shall employ gutters, downspouts, and piping in order to harvest rain water and convey it to a single point of collection. At the point of collection, rainwater shall be transported through a vortex filter and stored in a below grade storage tank. Harvested rainwater shall be supplied to toilets and urinals, and used for irrigation and other non-potable water uses.

2.3.9 Architectural Louvers

Painted aluminum louvers with insect screens shall be used for outdoor supply air and exhaust/relief air. The louvers are designed and shall be located to comply with UFC 4-010-01.

2.3.10 Interior Volume

The common ceiling height throughout the facility is 9 feet above the finished floor (AFF). Larger spaces, including Open Area Offices and the Classroom, have higher ceilings; 10 feet or 10 feet 8 inches AFF.

2.3.11 Interior Doors and Frames

Painted hollow metal frames and stained solid core wood doors shall be provided in most areas. Hollow metal doors shall be provided at service areas. Double doors are provided when convenient for moving equipment.

Security locks are required for the Arms Vault.

2.3.12 Arms Vault

The Arms Vault shall be constructed from modular reinforced concrete panels. The Arms Vault shall include a day gate.

2.3.13 Door Hardware

A card access is used to restrict access to the facility. Security locks are required for Arms Vault, and the Evidence Processing, Evidence Custodian and Evidence Depository Rooms.

2.3.14 Acoustical Design

The acoustical design of the facility is important considering the sensitive nature of many conversations within the building. These requirements are based on ANSI/ASHRAE Standard 189.1 and the text Architectural Interior Systems, by Flynn, Kremers, Segil, and Steffy.

To provide for sound privacy between spaces, partition and ceiling construction shall be constructed to meet these specific Sound Transmission Class (STC) ratings.

Administrative Offices	STC 40
Conference and Interview Rooms	STC 45
Polygraph Room	STC 50
Classrooms	STC 45
SIPRNET	STC 50
Mechanical Room	STC 50
Classrooms and Conference Rooms	
when adjacent to Restrooms	STC 53
Classrooms and Conference Rooms	
when adjacent to Mechanical Room	STC 60

Background noise levels are controlled through the selection and placement of equipment and through a variety of other design techniques. An acceptable background noise level (defined by Noise Criteria Curve or NC) is provided based on the following criteria:

Classrooms	NC 25
Conference Rooms	NC 30
Private Administrative Offices	NC 30
Polygraph Exam Room	NC 30
Open Administrative Offices	NC 35
Interview Rooms	NC 35

The Polygraph Exam Room shall be designed in accordance with Department of the Army Polygraph Regulation AR 195-6.

2.4 COMPREHENSIVE INTERIOR DESIGN (CID)

2.4.1 General

Comprehensive Interior Design (CID) for the project includes Structural Interior Design (SID) and Furniture, Fixtures and Equipment (FF&E). The SID and FF&E are outlined in this Design Analysis.

2.4.2 Structural Interior Design (SID)

Design goals for the finish materials used for ceilings, walls and floors include the following:

- aesthetically pleasing and functional finishes
- durability and ease of maintained
- recycled and sustainable materials
- the use of Fort Lewis regional interior colors

2.4.3 Interior Environmental Quality

All adhesives and sealants used on the interior of the building, including those used for HVAC systems, shall comply with ASHRAE 189.1 Section 8.4.2.1.1 or 8.4.2.1.2. Paints and coatings used on the interior of the building shall comply with ASHRAE 189.1 Section 8.4.2.2.1 or 8.4.2.2.2. Floor covering materials installed in the building interior shall comply with

- Carpet: Carpet shall be tested in accordance with and shown to be compliant with the requirements of CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350). Products that have been verified and labeled to be in compliance with Section 9 of the CA/DHS/EHLB/R-174 comply with this requirement.
- Hard surface flooring in office spaces and classrooms: Materials shall be tested in accordance with and shown to be compliant with the requirements of CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350).

All office furniture systems and seating installed prior to occupancy shall be tested according to ANSI/BIFMA Standard M7.1 and shall not exceed the limit requirements listed in Normative Appendix E of this standard.

Ceiling and wall system emissions shall be limited. These systems include ceiling and wall insulation, acoustical ceiling panels, tackable wall panels, gypsum wall board and panels, and wall coverings. Emissions for these products shall be determined according to CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350) and shall comply with the limit requirements for either office or classroom spaces.

2.4.4 Interior Wall and Ceiling Finishes

Wall finishes, floor finishes, and ceiling finishes shall conform to the requirements of NFPA 101, U.S. Army Corps of Engineers CIDC Building Design Guide, United Facilities Criteria 3.120.10 Interior Design with change 1, and Unified Facilities Criteria 3-600-01 Design: Fire Protection Engineering for Facilities.

Opaque interior surfaces in daylight zones shall have visible light reflectance greater than or equal to 80% for ceilings and 70% for partitions higher than 56 inches (1.54 meters) in daylight zones, when ASHRAE 189.1 Prescriptive Option 8.4 is chosen.

2.4.5 Ceilings

Acoustical ceiling tiles shall be 2 foot square tiles with a minimum recycled content of 60%. Square edge tiles are provided throughout the facility. The ceiling grid shall be a 15/16" wide metal, nonferrous, intermediate-duty system for lay-in acoustical panels. The finish of grid shall be a factory-applied *white* paint finish.

Moisture resistant gypsum board shall be used for ceilings in the Restrooms, Showers, and Vestibules.

The exposed gypsum board ceilings and exposed structure shall be painted with interior oil based semi-gloss enamel.

2.4.6 Walls

Gypsum drywall, with a minimum recycled content of 60%, shall be the common interior wall material. Impact-resistant gypsum wall board shall be used from floor level to a height of 4 feet in Corridors, Storage Rooms, and Visitor Waiting Areas. Fire-rated (type X) gypsum drywall shall be used for fire-rated walls. Cement board shall be used at shower walls.

Interior wall finishes shall be moisture and mildew resistant paint. Gypsum board surfaces shall be finished with a latex primer and two coats of eggshell finish of premium quality professional paint.

Concrete block walls shall receive a finish of one-coat of latex block-filler followed by one-coat of alkyd wall primer/sealer and one finish coat of oil based semi-gloss enamel paint.

Ceramic wall tile is used in toilet/shower areas in the administrative areas. Although no specific size is stated, where quarry, porcelain and ceramic is required in a design standard, it is preferred to use larger tiles, such as 8x8 or 12x12 to minimize the grout joints; use when acceptable by the use of the space within the facility. Tile shall be through-color. Colored grout with sealer shall be used. Ceramic tile wainscot shall extend 60 inches above the finished floor (AFF).

Corner Guards shall be provided at outside corners at right angles. Corner guards shall be through-color polycarbonate or rubber.

Chair rail is used in the corridors throughout the administrative areas of the facility. Chair rails shall be solid hardwood, AWI custom grade with molded shaped profile.

2.4.7 Flooring

Carpet tile shall be used throughout the administrative areas of the facility which includes Visitor Waiting, administrative areas, Offices, Corridors, Conference Rooms, and Large Interview Rooms. Carpet tile shall have minimum density of 6600 and 26 oz weight with a severe wear rating; carpet tile shall be

tufted cut and loop pile multi colored and patterned 100% solution dyed premium branded nylon with high performance backing. Straight rubber base is used with the carpet tile.

Carpet static control shall be provided to permanently control static buildup to less than 3.5 kv when tested at 20% relative humidity and 70 degrees F in accordance with AA TCC 134. The Telecomm Rooms shall be finished with non-static resilient flooring.

Ceramic floor tile shall be used in toilet and shower areas in the administrative area of the facility. The tile shall be a minimum of 12" x 12" through-color and slip resistant. Colored grout with sealer shall be used. Tile base and other pre-manufactured trim pieces shall be used.

Resilient tile flooring shall be used in the Multipurpose Room, Evidence Processing, Evidence Custodian, Evidence Depository, Photo ID and Corridors in the suspect areas of the facility, and in the Small Interview Rooms Resilient vinyl bio-based composition tile (VCT) shall be through-color commercial grade. A rubber cove base shall be used with VCT.

Thresholds of nonferrous materials shall be used where there is a transition of flooring materials. Stone thresholds shall be used where ceramic floor tile adjoins another floor material.

Concrete floors shall be exposed in the Mechanical, Electrical, TOE, Arms Vault, Supply Room, and Telecomm Rooms. These floors shall receive a finish of two coats of clear hardener/sealer.

Concrete floors shall be exposed in the TOE. This floor shall have a colored slip-resistant epoxy finish.

2.4.8 Furniture, Fixtures & Equipment

2.4.8.1 Fixed Furnishings

All building entrances employ an entry mat system consisting of a scraper surface, an absorption surface, and a finishing surface.

FF&E procurement shall be through activity, construction contract, or procuring agency as stated in the project contract/ requirements.

Window treatments shall be provided on every exterior window and at any interior view window where privacy is required. Blinds shall be one-inch wide horizontal room-darkening commercial grade aluminum blinds with hardware and controls.

Signage Assemblies consist of three primary elements; a structural rail, removable copy inserts and a wall mounted frame with trim. The signage rails shall be designed to hold injection molded plastic insert strips with integral color and tactile letters, symbols and Grade II Braille, to comply with ADA requirements. The rails and copy insert strips shall be snapped into a molded plastic frame which is secured to the wall surface. There shall be three types of signage: Identification, Directional and Accessibility.

Dry erase marker board shall be provided for Conference Rooms.

Shower area lockers shall be fabricated of solid polymer material and stacked two high.

All architectural woodwork shall be Architectural Woodwork Institute (AWI) custom grade; all exposed surfaces are clad with high pressure plastic laminate. Upper and lower cabinets shall be closed; countertops and splashes shall be made of solid surface materials.

2.4.8.2 Movable Furnishings

Develop design for FF&E in accordance with activity requirements with all movable furnishings required to produce an optimum functional facility. The design of FF&E package is to include the purchase and installation of collateral equipment. Those items which are considered movable include:
Wood Casegoods

Metal Furniture and Laminate-clad Furniture

Storage and Filing

Task Seating

Lounge Seating, Waiting Area Seating and Guest Seating

Classroom Seating

Interview Room and Conference Room tables

Waste Receptacles and Recycling Containers

Wall-mounted Clocks, Literature Racks

Small Appliances - Refrigerator and icemaker, microwave oven, commercial coffee makers shall be *ENERGY STAR* Equipment

Flat screen TV and ceiling mounted projectors shall be *ENERGY STAR* Equipment

2.5 SUSTAINABLE DESIGN

2.5.1 Design Criteria

CIDC facilities shall be designed and constructed in accordance with the following Department of Defense policies and directives on energy and resource conservation:

- Army Energy Security Implementation Strategy of 2009
- Department of the Army Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance) October 27, 2010
- ECB 2010-14 and ECB 2011-1
- Energy Independence and Security Act (EISA) of 2007
- Energy Policy Act (EPACT) of 2005
- Executive Order (EO) 13423 Strengthening Federal Environmental, Energy, and Transportation Management, 2007
- Executive Order (EO) 13514 – Federal Leadership in Environmental, Energy and Economic Performance, 2009
- Federal Leadership in High Performance and Sustainable buildings, Memorandum of Understanding (HPSBGP/MOU), 2006
- UFC 3-400-01 Energy Conservation (with 2008 revisions)
- USACE Army LEED Implementation Guide

The Battalion Headquarters facility at Fort Lewis is designed and shall be constructed as a High-Performance Green Building. The sustainable design approach for this facility is based on meeting two standards; compliance with ANSI/ASHRAE Standard 189.1 and LEED Silver Certification. The ASHRAE Standard 189.1 is similar to the LEED-NC v3.0 rating system, but includes more mandatory provisions.

2.5.2 ANSI/ASHRAE/USGBC/IES Standard 189.1 Standard for the Design of High-Performance Green Buildings

The project shall be designed to comply with ANSI/ASHRAE Standard 189.1.

2.5.2.1 Sustainable Sites

The site for the building project shall comply with the site selection criteria set by ASHRAE 189.1-2009, 5.3.1 *Site Selection*.

The site hardscapes shall comply with heat island effect mitigation criteria set by ASHRAE 189.1-2009, 5.3.2.1 *Site Hardscape*.

See ASHRAE 189.1-2009, 5.4.1.1 *Effective Pervious Area for All Sites* for site project compliance for pervious surfaces.

The backlight and glare ratings of building-mounted luminaires and all other luminaires shall comply with ASHRAE 189.1-2009, Table 5.3.3.2B and Table 5.3.3.2A, respectively.

All exterior lighting shall comply with either the maximum uplight ratings of Table 5.3.3.2A or the uplight requirements of Table 5.3.3.3, both of which are found in ASHRAE 189.1-2009.

2.5.2.2 Water Use Efficiency

2.5.2.2.1 Site Water Use Reduction

A minimum of 60% of the area of the improved landscape is bio-diverse planting of native plants and adapted plants other than turf grass.

A maximum of one-third of the improved landscape is irrigated by potable water.

Irrigation systems are controlled by either a qualifying smart controller that uses evapotranspiration (ET) and weather data to adjust irrigation schedules and complies with the minimum requirements, or an on-site rain or moisture sensor that automatically shuts the system off after a predetermined amount of rainfall or sensed moisture in the soil. Qualifying smart controllers meet the following minimum requirements:

Irrigation adequacy – 80% minimum ET of the plant material

Irrigation excess – not to exceed 10% when tested in accordance with IA SWAT Climatological Based Controllers 8th Draft Testing Protocol

2.5.2.2.2 Building Water Use Reduction

Plumbing fixtures and fittings comply with the flush and flow rates requirements established in ASHRAE 189.1-2009, 6.3.2.1 *Plumbing Fixtures and Fittings*.

Additional water use requirements are noted in ASHRAE 189.1, 6.3.2.3 HVAC Systems and Equipment and ASHRAE 189.1, 6.4.2.1 Cooling Towers.

Measurement devices with remote communication capability are provided to collect water use data for each of the building subsystems; potable water and harvested rain water.

All building measuring devices, monitoring systems, and sub-meters are configured to the meter data management system. The meter provides, at minimum, daily data and records hourly water consumption. The meter data management system is capable of electronically storing water meter, monitoring systems, and sub-meter data and creating user reports showing calculated hourly, daily, monthly, and annual water consumption of each measurement device and sub-meter. The meter data management system also provides alarm notification as needed to support requirements set by the Water Use Efficiency Plan for Operation (ASHRAE 189.1-2009, 10.3.2.1.2 *Water Use Efficiency*).

2.5.2.3 Energy Efficiency

To satisfy energy efficiency requirements, the prescriptive path listed in ASHRAE 189.1-2009 and 90.1-2007 is being followed. Building envelope insulation requirements are being increased. A solar hot water heating system is being used as an on-site renewable energy. To provide "free" cooling in the building a waterside economizer shall be used.

2.5.2.3.1 Climate Zone and Weather Data

Fort Lewis is located in Climate Zone 4-C COOL-WET.

Outdoor design temperatures are derived from ASHRAE 90.1-2007:

99.6% Heating Design Temp	18 degrees F
1% DB Cooling Design Temp	82 degrees F
1% WB Cooling Design Temp	63 degrees F

The full-year weather data used for energy modeling is from the DOE-2 TMY-3 database.

2.5.2.3.2 Interior Space Temperatures

Interior design temperatures are 70 degrees F for heating and 75 degrees F for cooling. Temperature drift points are 55 degrees F and 80 degrees F.

2.5.2.3.3 Power or Plug Loads

Plug loads are assumed to be 0.75 watts per square foot, for energy analysis and modeling.

2.5.2.3.4 Electrical Power

ASHRAE 189, 7.4.5.1: The project shall contain automatic systems, such as demand limiting or load shifting, that are capable of reducing electric peak demand of the building by not less than 10% of the projected peak demand.

Feeder conductors shall be sized for a maximum voltage drop of 2% at design load.

Branch circuit conductors shall be sized for a maximum voltage drop of 3% at design load.

2.5.2.3.5 Lighting

The installed interior lighting power includes all power used by the luminaires, including lamps, ballasts, transformers, and control devices. Luminaires that are not included in the calculation are as follows: exit signs and furniture-mounted supplemental task lighting that is controlled by an automatic shut-off switch.

The luminaire wattage incorporated into the installed interior lighting is determined by the operating input wattage of the maximum lamp/auxiliary combination based on values from the auxiliary manufacturers' literature (for luminaires with permanently installed ballasts).

The interior lighting power allowance for the building is 90% of the value determined by using the "Space by Space Method" as described in ASHRAE 90.1.

The interior lighting is controlled by occupancy sensors that turn lighting off within 30 minutes of an occupant leaving a space. These automatic control devices are implemented such that lighting can be shut off in all spaces via "automatic OFF" controls. The occupancy sensors allow "manual OFF" control. In addition, all occupancy sensors allow bi-level "automatic ON" programmed to a low light level combined with multi-level circuitry and "manual ON" switching for higher light levels. Exceptions to the control strategy include the Mechanical, Electrical, and Telecomm Rooms, where the automatic shutoff of lighting could endanger the safety of building occupants.

Corridors, as a means of egress, do not exceed the 0.1 W per square foot limit, as defined by ASHRAE 189.1-2009.

The following spaces include controls that automatically reduce lighting power in response to available daylight by a combination of stepped switching and daylight-sensing automatic controls (capable of incrementally reducing the light level in steps automatically and turning the lights off automatically): Large Interview Room, Drug Suppression Team Room, and Admin/OPS Room.

Each space enclosed by ceiling-height partitions shall have a control device that independently controls the general lighting in the space. The location of the manual control device serving each space shall be easily accessible. The Conference Room does not use an automatic shutoff device as it shall have a multi-scene control system.

Internally illuminated exit signs shall not exceed 5W per face.

Exterior lighting is controlled by a combination of a photo sensors, motion sensors, and a time switch. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least ten hours. [Relay shall step down the total lighting power by 50% one hour after normal business closing and turn off outdoor lighting within 30 minutes after sunrise. The photo sensors are interconnected with the relay.]

Luminaires that are mentioned in the previous paragraph that operate at greater than 100W contain lamps with a minimum efficacy of 60 lumens per watt.

2.5.2.3.6 Shading Devices

The sunshades project approximately 40 inches beyond the façade at most windows, in order to satisfy the ASHRAE 189 requirement for permanent projections on the East, West, and South façades with a projection factor (PF) of 0.5 or greater.

2.5.2.3.7 Thermal Envelope

The building thermal envelope meets the minimum required R-values of insulation in framing cavities and for continuous insulation (c.i.) only.

The building envelope is designed and constructed with a continuous air barrier. All air barrier components of each envelope assembly shall be clearly identified on Construction Documents and the joints, interconnections, and penetrations of the air barrier components shall be detailed.

Opaque Element	Min. R-Value/Max. U-Value	Proposed R-Value
Roof – Attic and Other	R-49	R-60
Walls, Above-Grade – Steel-Framed	R-13 + R-5.0 c.i.	R-21 + R-10 c.i.
Slab-On-Grade Floors – Unheated	F-0.730, Ins NR	R-10 for 24 inches
Opaque Doors – Swinging	U-0.60	U-0.45

The building exterior wall assembly, roof assembly, and fenestration have specific composite STC or OITC rating requirements dependent on building location in proximity to specific noise profiles. See ASHRAE 189.1-2009, Section 8.3.3.1 for this criteria.

2.5.2.3.8 Fenestration

The proposed building includes a sunshade/light shelf at each window on the East, South, and West facades of the building. These sunshades (or permanent projections) are a requirement of ASHRAE Standard 189.1 Chapter 8, when the prescriptive option is followed. The sunshade/light shelf is also consistent with the architectural standards at Fort Lewis.

The vertical fenestration area is 14% which does not exceed the limit of 40% of the gross wall area. No skylights are included in the Battalion Headquarters facility design.

See ASHRAE 189.1-2009, 7.4.2.9 *Fenestration Orientation* for fenestration area versus SHGC compliance for climate zone 3.

See ASHRAE 90.1-2007, 5.8 *Product Information and Installation Requirements* for insulation and fenestration labeling and testing requirements.

Fenestration Element	Max. U-Value/SHGC	Proposed U-Value/SHGC
Vertical Glazing – Nonmetal framing	U-0.30, SHGC-0.35	U-0.30, SHGC-0.35

Vertical Glazing – Metal framing (entrance door)	U-0.80, SHGC-0.35	U-0.30, SHGC-0.35

2.5.2.3.9 Infiltration

The following areas of the building envelope shall be sealed to minimize air leakage:

- Joints around fenestration and door frames
- Junctions between walls and foundations, between walls at building corners, between walls and structural floors or roofs, and between walls and roof or wall panels
- Openings at penetrations of utility services through roofs, walls, and floors
- Joints, seams, and penetrations of vapor retarders
- All other openings in the building envelope

Air leakage for fenestration and doors shall be determined in accordance with NFRC 400. Air leakage shall be determined by a laboratory accredited by a nationally recognized accreditation organization and shall be labeled and certified by the manufacturer. Air leakage shall not exceed 1.0 CFM per square foot for glazed swinging entrance doors. For roll-up doors, air leakage determined by test at standard test conditions in accordance with ANSI/DASMA 105 shall be an acceptable alternate for compliance with air leakage requirements.

Building entrances that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. The interior and exterior doors meet the requirement for a minimum distance of 7 feet between the two when in the closed position.

2.5.2.3.10 Roof Materials

The standing seam metal roof shall have a Solar Reflectance Index (SRI) value of 30, which satisfies the minimum initial SRI of 29 for a *steep-sloped* roof. The SRI is to be calculated in accordance with ASTM E1980 for medium-speed wind conditions. The SRI is to be based upon solar reflectance as measured in accordance with ASTM E1918 or ASTM C1549, and thermal emittance as measured in accordance with ASTM E408 or ASTM C1371. For roofing products, the values for solar reflectance and thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization, and shall be certified by the manufacturer.

2.5.2.3.11 Building Equipment

Measurement devices (smart meters) with remote communication capabilities are provided to collect energy consumption data for building electrical loads (consumption and demand), natural gas consumption, and on-site renewable thermal energy. These meters shall automatically communicate

with a data acquisition system, and provide daily and hourly energy data. The data acquisition system shall be capable of storing data for a minimum of 36 months and creating user reports showing hourly, daily, monthly, and annual energy consumption.

HVAC equipment efficiencies shall comply with ASHRAE 189, 7.4.3.1.

Fan system power limitations are noted in ASHRAE 189.1, 6.5.3.

Domestic hot water equipment efficiencies are listed in ASHRAE 189, Table C-12).

Electric motors comply with the requirements of the Energy Policy Act where applicable, as shown in ASHRAE 189.1-2009, Table C-13. Motors not included in the scope of the Energy Policy Act of 1992 have no performance requirements in ASHRAE 90.1-2007, Section 10 *Other Equipment*.

See ASHRAE 189.1-2009, 7.4.7.3 *ENERGY STAR Equipment* for equipment requirements within the scope of applicable ENERGY STAR program.

2.5.2.3.12 Control Strategies - HVAC

The cooling system is designed to distribute cooling at the zone level, therefore, the thermostatic controls for the equipment conveying cool air is set at the zone level. The heating system is controlled at the room level.

Automatic shutdown, temperature setback control and optimum start time control shall be provided by the Energy Management and Control System (EMCS).

Ventilation outdoor air dampers automatically shut during preoccupancy building warm-up, cool down, and setback, except when ventilation reduces energy costs (e.g. night purge).

All HVAC equipment shall be monitored and/or controlled through the energy management and control system.

2.5.2.3.13 Control Strategies – Service Hot Water

Temperature controls are provided that allow for storage temperature adjustment from 120°F or lower to a maximum temperature compatible with the intended use.

The recirculation pump for the hot water system is equipped with an automatic time switch set to switch off the water heaters when the facility is unoccupied.

Temperature control means are provided to limit the maximum temperature of water delivered from lavatory faucets in the Public Restrooms to 110 degrees F.

2.5.2.4 Renewable Energy

The Battalion Headquarters building shall include an on-site renewable energy system, with active solar collectors, to provide an estimated annual energy production equivalent of 10 KBtu per square foot of conditioned space, as compared to the minimum requirement of 6.0 KBtu per square foot.

2.5.3 LEED (Leadership in Energy and Environmental Design)

The Battalion Headquarters facility is designed to achieve LEED Silver Certification under the USGBC 2009 rating system. As presented on the LEED scorecard included at the end of this section there are 72 points that may be achievable. For Silver Certification, a minimum of 50 points are required; an additional 10 points are included (a 20% contingency) in the 'Y'column of the scorecard since the project is currently at the concept design level.

The LEED credits which are being pursued include the following key items:

SS C4.2: Alternative Transportation – Bicycle Storage and Changing Room

Bicycle racks shall be located within 200 yards of building entrance with storage for 5% of building users and shower and changing facilities for 0.5% of full time equivalent occupants.

SS C4.4: Alternative Transportation – Parking Capacity

This project shall utilize Option 1 – non-residential with new parking. Preferred parking for carpools or vanpools for 5% of the total provided parking spaces.

SS C5.2: Site Development – Maximize Open Space

This project is for a military base, therefore there are no local zoning requirements in place. Option 2 shall be used in order to promote biodiversity by providing a high ratio of open space to development footprint.

SS C6.1: Stormwater Design – Quantity Control

Reduce the quantity of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from storm water runoff and eliminating contaminants.

SS C6.2: Stormwater Design – Quality Control

The project shall include a storm water management plan to control the quality of storm water.

SS C7.1: Heat Island Effect – Non-roof

To minimize the heat island effect 50% of the site hardscape shall be selected in materials with a SRI of 29 or greater; pervious paving systems and shading devices are other options.

SS C7.2: Heat Island Effect – Roof

A painted standing seam metal roof shall be used to reduce heat island effect. The Solar Reflectance Index of the roof shall be higher than a value of 29.

SS C8: Light Pollution Reduction

Project shall reduce input power, by automatic device, for interior lighting. The project shall minimize light trespass from the building and site, reduce sky-glow, improve nighttime visibility and reduce development impact from lighting on nocturnal environments.

WE C1: Water Efficient Landscaping

Landscaping is designed to reduce the use of potable water for irrigation

WE C3: Water Use Reduction

Water conserving fixtures are used to reduce potable water use for building sewage conveyance by 50%.

EA C1: Optimize Energy Performance

To evaluate energy performance, a full year energy model shall be used.

EA C2: On-site Renewable Energy

Solar collectors and a hot water storage system shall be used to provide on-site renewable energy.

EA C3: Enhanced Commissioning

Energy-related building systems shall be commissioned in accordance with LEED requirements for both Fundamental Commissioning and Enhanced Commissioning. Commissioning process activities shall be completed for the following energy-related systems:

Heating, ventilating, air conditioning, and refrigeration (HVAC) systems, both active and passive, and associated controls

Lighting and daylighting controls

Domestic hot water systems

Renewable energy systems

Building Envelope

LEED 2009 for New Construction and Major Renovations

Project Checklist

CIDC Battalion HQ - Fort Lewis, WA

22-Jun

Sustainable Sites — Possible Points: 26

Y	?	N			
11	10	1			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
	1		Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
	6		Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
	3		Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
1			Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
1			Credit 8	Light Pollution Reduction	1

Water Efficiency — Possible Points: 10

Y	?	N			
7	3				
Y			Prereq 1	Water Use Reduction—20% Reduction	
4			Credit 1	Water Efficient Landscaping	2 to 4
	2		Credit 2	Innovative Wastewater Technologies	2
3	1		Credit 3	Water Use Reduction	2 to 4

Energy and Atmosphere — Possible Points: 35

Y	?	N			
18	7				
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
8	5		Credit 1	Optimize Energy Performance	1 to 19
3			Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
3			Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

Y	?	N			
8	2	4			
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
	2		Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	?	N			
2			Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
1			Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y	?	N			
12		3			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
		1	Credit 8.1	Daylight and Views—Daylight	1
		1	Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

Y	?	N			
1	3	2			
	1		Credit 1.1	Innovation in Design: Specific Title	1
	1		Credit 1.2	Innovation in Design: Specific Title	1
	1		Credit 1.3	Innovation in Design: Specific Title	1
		1	Credit 1.4	Innovation in Design: Specific Title	1
		1	Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

Y	?	N			
3					
1			Credit 1.1	Regional Priority: EA C1 (98433)	1
1			Credit 1.2	Regional Priority: MR C7 (98433)	1
1			Credit 1.3	Regional Priority: SS C1 (98433)	1
			Credit 1.4	Regional Priority:	1

Total — Possible Points: 110

Y	?	N
60	25	10

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

2.6 FIRE PROTECTION

2.6.1 General

The fire protection design criteria for this facility include the current versions of the Unified Facilities Criteria 3-600-01 Fire Protection Engineering for Facilities, the International Building Code and the referenced National Fire Protection Association (NFPA) Codes and Standards.

A detailed Building Code analysis is provided on Drawing G-101. A number of assumptions were made in the completion of the Code Analysis. These assumptions include the following:

- The building shall be placed on a site with the minimum distances to the property lines (or assumed property lines) as indicated. In the event that the building is placed closer to a property line or another building than indicated in these documents, the exterior wall ratings will need to be re-evaluated.
- An increase of 300% in allowable building area was included for automatic sprinkler protection. No allowable increase was taken for the increased access around the building.
- Based on the building size, occupancy type, and installation of automatic sprinkler protection, the allowable construction type could be any type other than Type V-B. The most cost effective construction type that does not require protected construction (i.e. fireproofing) is Type ll-B. This construction type also offers the most flexibility for possible future expansion.
- There are no special locking arrangements (no locked doors) in the means of egress.

2.6.2 Building Occupancy

The CIDC Battalion Headquarters building is classified as a Business Occupancy (Group B).

2.6.3 Fire Protection

Fire protection shall be provided by a wet pipe sprinkler system in the Battalion Headquarters Building. The system shall meet the requirements of UFC 3-600-01 and NFPA 13: Standard for the Installation of Sprinkler Systems. All sprinklers shall be quick response type.

Based on a single story building and Light/ Ordinary Hazard occupancy, it is likely that this building shall not require a fire booster pump. However, the floor plan does include space for a fire pump in the event that the water supply cannot provide the required pressure.

2.6.4 Fire Extinguishers and Cabinets

Portable fire extinguishers are provided in accordance with NFPA 10.

2.6.5 Interior Wall and Ceiling Finishes

Wall and ceiling finishes and movable partitions shall conform to the requirements of NFPA 101.

2.6.6 Fire Alarm/ Mass Notification System

The fire alarm system shall conform to requirements of UFC 3-600-01 and NFPA 101 throughout each structure. Fire alarm system shall consist of pull stations, audio and visual devices, control/annunciation panel and tamper and/or flow connection/supervision to the sprinkler system. Installation of Fire alarm system shall be in accordance with NFPA 72.A combined Fire Alarm/Mass Notification system shall be provided in accordance with UFC 4-021-01, Mass Notification Systems. A voice evacuation system shall be used for the audible notification appliances. The speakers used for the fire alarm voice evacuation system also serve as the audible Mass Notification System. Dual clear lens / amber lens strobe lights (clear for “Fire” and amber “Mass Notification”) shall be provided for visual notification and must be installed in accordance with NFPA 72 and ADA guidelines. A micro-phone for voice announcements (local operating console) shall be provided at the main entrance and at the side entry (most remote from the main entry).

2.7 PLUMBING

2.7.1 General

The plumbing design of the Battalion Headquarters CIDC building at Fort Lewis complies with Unified Facilities Criteria (UFC) documents, the ABA/ADA Accessibility Standards for Federal Facilities, LEED – NC for New Construction Reference Guide 2009, and ASHRAE 189.1-2009 Standard for the Design of High-Performance Green Buildings.

2.7.2 Building Water Use Reduction

Low-flow plumbing fixtures are used to maximize water efficiency. Public lavatory faucets shall have a maximum flow rate of 0.5 GPM. Dual flush water closets shall be used with an effective flush volume of 1.28 gallons; and urinals shall have a maximum flush volume of 0.5 gallons.

2.7.3 Domestic Water Heating

An active solar hot water system is utilized to satisfy the domestic hot water load. The peak domestic hot water load is approximately 1,050,000 Btu/day. Annual energy contribution from the solar system is estimated at 251,200 kBTU.

The solar collectors are sized for the month of January, when the solar insulation (solar radiation intensity) is the lowest, in order to estimate solar collector area. This yields a solar collector area of about 1,000 ft^2. These collectors are used as a walkway cover for the entrance on the west side of the site. The cover/shade is sloped to give the panels a south-facing orientation.

The solar storage tank is 300 gallons and includes a double wall heat exchanger. The solar hot water system is supplemented by a natural gas-fired boiler, one of the two boilers used for space heating. This equipment is located in the Mechanical Room.

2.7.4 Metering

Smart Meters shall be used to monitor the energy and resource use of the facility. Smart Meters capture complex energy or resource use information and transmit this information on a real-time (or near real-time) basis.

2.7.5 Water Meters

Provide metering and sub metering of water use including separate metering of potable and harvested rain water systems.

2.7.6 Natural Gas Meter and Pressure Regulator

A gas meter and pressure regulator shall be provided. The gas meter shall be a 'Smart Meter' and report to the Energy Management Control System.

2.8 HVAC SYSTEMS

2.8.1 General

The mechanical design for all CIDC facilities shall be in accordance with the current version of the Unified Facilities Criteria (UFC) documents and all applicable codes and standards, including the ABA/ADA Accessibility Standards for Federal Facilities, LEED – NC for New Construction Reference Guide 2009, and ASHRAE 189.1-2009 Standard for the Design of High-Performance Green Buildings.

2.8.2 Facility Energy Conservation Requirements

Comply with ASHRAE 189.1 Chapter 7 Energy Efficiency using either the Prescription Option Section 7.4 or the Performance Option 7.5. Plug loads shall be included in building energy modeling but shall be subtracted in the final calculation of energy performance.

2.8.3 HVAC Systems

Ventilation rates shall meet the minimum requirements of the International Mechanical Code, and the current ASHRAE Standard 62.1. The HVAC system shall provide filtered outdoor air to all occupied spaces at air volumes that meet these minimum rates. The Classroom shall be served by an independent HVAC system.

A Demand Controlled Ventilation system shall be provided in the Classroom and Conference Room, and evaluated for use in other areas.

Provide permanent equipment to measure the outdoor air flow rate for each ventilation system, as required by ASHRAE 189.1

Outdoor air intake louvers or grilles shall be placed at least 10 feet above finished grade to meet the requirements of UFC 4-010-01 Minimum Antiterrorism Standards for Buildings.

Chlorofluorocarbon (CFC) based refrigerants shall not be used in HVAC and refrigeration systems.

Cooling towers shall be equipped with efficient draft eliminators in compliance with ASHRAE 189.1.

The HVAC systems shall be designed in accordance with the noise criteria (NC) ratings required for the Battalion Headquarters facility.

2.8.4 HVAC System Evaluations and Selection

The Baseline HVAC system, as defined by ASHRAE Standard 90.1 and used for energy modeling, is a packaged single zone constant volume system with direct expansion (DX) cooling and a fossil fuel furnace.

2.8.4.1 Proposed System 1

A system of vertical self-contained air-handling units, located in the Mechanical Room, shall be evaluated. Heat rejection options for this system include the use of an outdoor dry cooler or a closed loop cooling tower, located on grade. The outdoor environmental and climate conditions shall be evaluated to determine if a dry cooler or a wet cooling tower is the best selection. A water-side

economizer using fluid from the cooling tower or dry cooler for cooling directly, without the use of a refrigeration cycle, shall be evaluated.

2.8.4.2 Proposed System 2

An alternative system, consisting of an air-cooled chiller and interior fan coil units shall be evaluated. The air-cooled chiller shall be located on-site; waste heat recovery from the condenser shall be evaluated as an option.

Waste energy (waste heat) recovery systems shall also be evaluated.

2.8.5 Space Heating

A two-pipe fan coil system shall be evaluated for space heating. The heating system shall also include natural gas hot water (one condensing, one non-condensing) boilers and pumps, located in the Mechanical Room. This system is integrated with the active solar collectors and storage tank, also used for heating of domestic hot water.

2.8.6 Energy Management and Control System

The EMCS shall be a complete non-proprietary direct digital control (DDC) system for monitoring and control of the heating, ventilating, and air conditioning (HVAC) systems, lighting systems, and other building systems.

The EMCS system is designed as an Open system; the system can be repaired, upgraded, and/or expanded without dependence on the original system supplier.

The EMCS monitors and controls site lighting fixtures and the main Battalion Headquarters Building.

2.8.7 Emergency Shut-down

An air distribution system emergency shutoff switch, as required under UFC 4-010-01, shall be provided. This emergency switch is located near the main building entrance. Shut down shall also occur upon fire alarm activation.

2.8.8 Evidence Depository

The Evidence Depository Room of the CIDC building shall be provided with a separate HVAC system in order to provide 24/7 space conditioning without operating the main HVAC systems. The separate HVAC system is also intended to contain fumes and odors within Evidence Depository.

2.8.9 Telecomm Rooms and SIPRNET Room

The Telecommunication and SIPRNET Rooms are served by an independent and dedicated air-handling air-conditioning system. The nominal cooling capacity is 2 tons of refrigeration. The rooms shall be conditioned 24 hours per day, 7 days per week to a temperature of 72 degrees F (dry bulb) and to a relative humidity of 50%.

2.8.10 Arms Vault

The independent system for the Vault shall include a dehumidifier. The system shall be located outside of the caged area of the Vault.

2.8.11 Mechanical Room

The Mechanical Room shall be provided with a combustible gas detector and carbon monoxide detectors.

2.9 ELECTRICAL

2.9.1 Lighting

The interior and exterior lighting is compliant to IESNA Standards and meets ASHRAE Standards 90.1-2007 and 189.1-2009. The lighting design was done using the software AGI32 v2.21 instead of the built-in REVIT lighting calculation software. Differences between the two programs are the method of calculation. AGI32 uses the point-by-point method as supposed to the zonal cavity method used by REVIT. The zonal cavity method is less accurate because it uses a ratio to find the foot-candles as opposed to the average of all the points, used in the point-by-point method.

The lighting design for individual rooms includes a task light in order to better meet the occupier's needs. The illumination levels (measured in foot candles) achieved with general purpose lighting and task lighting are as follows:

Private Office	50fc
Lobbies, Lounges, Reception	10fc
Toilet	5fc
Corridor	5fc

Offices are provided with a recessed troffer direct fluorescent lighting system. The conceptual design analysis showed this to be the most efficient scheme. A troffer was chosen in order to meet the lighting power density ratio stipulated in ASHRAE 90.1 and 189.1. Transitional areas have recessed downlights. The Mechanical, Electrical, Telecommunication and TOE Storage Rooms shall consist of linear industrial fluorescent fixtures. The Restrooms shall feature wet location downlights to deal with the high levels of moisture in the room. Light switches and occupancy sensors shall be provided on the basis of ASHRAE 90.1 and 189.1.

The lighting for the corridors, open offices, and the exterior of the Battalion Headquarters building, including site light fixtures associated with the building, shall be controlled by a digital, IP-addressable, microprocessor-based, programmable lighting control system. The system shall contain an accurate time-based astronomical digital clock, network graphical user interface, and local overrides. The exterior fixtures associated with parking areas shall contain photoelectric cells and controllers, so that the total amount of site lighting can be reduced to minimal levels during non-business hours. Lighting associated with site security shall be controlled manually and shall be kept to minimal levels. The Classroom lighting fixtures shall include dimming controls.

The "space-by-space" method was used for the lighting power density (LPD) calculation for the building. LPD using this method is found by determining the interior power allowance (AHSRAE 90.1- 2007, table 9.6.1). Then multiply the floor area(s) of the space(s) times the allowed LPD for the space type. The

interior lighting power allowance is the sum of the light power allowances of all spaces. Calculations can be found in the Revit model.

2.9.2 Emergency and Exit Lighting

All areas of the building shall be provided with LED emergency and exit lighting and shall comply with NFPA 101. General purpose lighting fixtures, in the path of egress, include battery packs and lamps for emergency lighting. An emergency generator is not included in this facility.

2.9.3 Electrical Power

The electrical transformer for the Battalion Headquarters facility shall be a 225kVA, 12.47kV–480Y/277V, liquid-filled pad mount transformer. A 480Y/277V – 3P, 4W secondary service shall be run underground from the transformer to the main distribution panel located in the Main Electrical Room, utilizing one(1) set of four (4) 500 MCM plus one (1) #4 AWG 600V 90°C copper conductor in EB Type-20 concrete encased ductbank. The primary service to the transformer shall be one(1) set of #2 AWG 15-kV 133% EPR copper conductor with one (1) 100% ground. Primary protection for the transformer shall be provided in accordance with the National Electrical Code (NEC). The size of the service transformer estimate was based on the requirement of UFC 3-501-01 3-2.3.1 that no service transformer can exceed 12 VA/ft². This requirement states that "For building design no service transformer can exceed 12VA/ft²". However, since the calculated size was 196-kVA, the next commercially available size of 225kVA was chosen.

Power distribution for the facility shall emanate from the building's Main Electrical Room. Surge suppression shall be provided for the 480Y/277V main electrical service and the main 208Y/120V panel. 480Y/277V power shall be provided for lighting and large mechanical loads. It is anticipated that there shall be one (1) 400A main service panel, with a 350A main circuit breaker, plus one (1) 100A MLO panel for lighting and one (1) 480Y/277V-3P, 4W, 225A MLO panels for mechanical loads. From the 480Y/277V, the power shall be transformed down to 208Y/120V for general convenience power receptacles and small mechanical loads via a 75kVA k-rated transformer (k-4). It is estimated that there shall be one (1) 208Y/120V-3P, 4W, 250A MCB MDP panel. Each Telecommunication Room shall receive one (1) 208Y/120V-100A MLO panel and there shall be one (1) 208Y/120V-150A MLO panel for general receptacle loads. 600V 90°C copper feeders for sub-panels shall be provided as required.

The facility shall contain one (1) 208Y/120V-3P, 60A twist-lock water-proof receptacle, one (1) 208Y/120V-3P manual transfer switch, and one (1) 208Y/120V-3P 60A main circuit breaker panel for the estimated mission essential power requirements. This power shall be provided by a portable generator, which shall be rented or leased. This portable generator is a future item, intended for, per the program requirements, the mission essential power and not for any life safety systems. It is estimated that mission essential load is about 15-kW.

CIDC requires that one freezer and one refrigerator be connected to the mission essential power system.

2.9.4 Grounding

The building structure shall be grounded in accordance with UFC requirements. A complete copper grounding system shall be provided. A ground ring shall be installed, connected to the building structure at each steel column. Neutrals of the electrical distribution system shall be bonded at the main distribution panels.

2.10 COMMUNICATIONS AND SECURITY SYSTEMS

2.10.1 Information Systems

Information systems shall consist of a complete end-to-end voice, data cable based functional design accomplished in accordance with the I3A Technical Criteria. Information system equipment provided to satisfy the service requirements of this facility shall meet the technical specifications and planning guidance found in ANSI/TIA/EIA-568-B and 569-A, as appropriate.

System provisions shall be compliant with the requirements of the Department of Defense (DoD) ABA/ADA Standards for accessibility.

Metallic separation is provided between telecommunication and power wiring in power poles, under floor conduit systems, and systems furniture raceways.

2.10.2 Telecommunications Systems

Telephone and data communications for the facility shall be distributed throughout the building from the main Telecomm Room. Punch down blocks, Cat- 6 4-pair cable, 50 µm multimode fiber optic cable, and telephone jacks shall be provided for the horizontal distribution as part of this project. For data communication, patch panels, Cat- 6 4-pair cable and data jacks shall be provided. All cables shall be numbered by room and jack for both telephone and jack. Data cables shall be color-coded. Two (2) 8P8C, 568B type, shall be used for voice and data with appropriate label. Fiber optic adapters and connectors shall be TIA/EIA “SC” type (568SC). CATV and CCTV connections shall be provided through 75 ohm coaxial cable.

2.10.3 Data System

Data jacks shall be terminated on Category 6 110 RJ-45 termination panels located on racks in the Telecomm Rooms.

2.10.4 Information System Equipment

All equipment provided for the facility shall meet the functional standards found in the I3A Technical Criteria. The building's interior copper cabling shall be EIA/TIA 568B.

2.10.5 Protected Distribution System (PDS) Infrastructure

The PDS is designed and shall be installed in accordance with the I3A Technical Criteria. All PDS cable distribution and telecommunications systems comply with the I3A Technical Criteria (for design and allocations) and with the latest versions of ANSI/TIA/EIA 568B (for technical implementation).

The installation shall follow the requirements of ANSI/TIA/EIA-569-A for telecommunications paths and Equipment Room spaces. Provide dedicated PDS raceway space and Equipment Room space for the purpose of future fiber optic cable installation to each outlet location initially served only by copper cable(s). Provide space for future data and communication cabling. Provide I3A standard dual-jack voice/data outlets throughout core areas, the supply/administration areas, and the classroom's instructor's podiums/desk; use I3A functional area outlet-densities to determine the outlet quantities. Provide data outlets for all planned computer equipped classroom desktops; voice outlets are not

appropriate for classroom desktops. Use of multiple-jack outlets to serve classroom desktop locations, (i.e., up to four 8P8C RJ-45 type jacks) is typical. Terminate classroom data outlets on patch panel(s) mounted in a classroom-based cabinet. This cabinet shall also contain any LAN networking equipment needed within the Classroom. Provide fiber optic cable from this rack) to one of the Telecomm Rooms.

2.10.6 Paging Systems

A zoned paging system shall be provided throughout the Battalion Headquarters building and integrated with the telephone system. The system shall allow paging to individual rooms and to all building areas.

2.10.7 Audio/ Visual System

Audio/Visual systems are designed and shall be installed to comply with I3A Technical Criteria and the program requirements. Provisions (consisting of a power receptacle and conduit for signal wiring) for a GFGI projector shall be provided in each Conference Room and Classroom. CATV shall be provided in Conference Rooms. The cable television system shall consist of cabling, pathways, and outlets.

Battalion Headquarters building CATV systems shall conform to applicable criteria including I3A Technical Criteria and UFC 3-580-01 Telecommunications Building Cabling Systems Planning/Design.

2.10.8 Electronic Security System (ESS)

The security infrastructure shall be designed and installed to support Government-furnished equipment including ICIDS systems, CCTV surveillance systems, and restricted access systems. Provisions shall include dedicated power circuits, communications connections, raceways, and signal wiring for user installed devices.

Design of security systems shall also be coordinated with the Mandatory Center of Expertise (MCX) Electronic Security Center, U.S. Army Installation Support Center, Huntsville, Alabama.

All unclassified telecommunications systems and associated infrastructure shall be electrically and physically isolated from all classified telecommunications systems in accordance with NSTISSAM requirements. TEMPEST requirements shall be met on a per site basis dependent on the facility zone type and the equipment NSTISSAM level.

An alarm and closed circuit television (CCTV) system shall be provided. An alarm shall be placed at each exterior door and CCTV cameras shall be installed in Corridors and at building entrances.

2.10.9 Clock System

Clocks shall be provided in Classrooms, Conference Rooms and Visitor Waiting Areas.

2.10.10 Mass Notification System

Provide a mass notification system conforming to UFC 4-010-01 and UFC 4-021-01 for the purpose of providing real-time announcements in the immediate vicinity of the building during emergency situations. Coordinate specific system requirements with the user and the Installation.

The mass notification control panel shall be located in the office of the Duty Agent.

See section 2.6 FIRE PROTECTION.

End of Section

APPENDIX A

PROJECT TRACKING SHEET

Facility Type Compliance Documentation:

PROJECT TRACKING SHEET

Item	Component	Min. Requirements	Proposed/Designed to
Project ID	Category Code	14114	
	Building Code used and year		N/A
	Facility Type (i.e. 1300 PP, DFAC, 1300 Trainee)	Criminal Investigation Command Field Operations Building Battalion HQ Ft Lewis, WA	N/A
	Building Gross Area	16343 f²	
	Design/Construction Method (i.e. Design-Build, Design-Bid-Build, Adapt-Build, Unique)	Adapt-Build	N/A
	Number of building stories	1	N/A
1. Roof	Insulation (R-Value)	R-49	R-60
	Surface reflectance	Note 1	
2. Walls	Insulation (R-Value)	R-13 + R-10 ci	R-21 + R-10 ci
3. Floors	Insulation (R-Value)	R-10 for 24”	
4. Doors	Assembly (U-Value)	U-0.600	
5. Infiltration	Bldg Envelope Air Leakage	Note 1	
6. Vertical Glazing	Window to Gross Wall (Percentage)	40%	≈11.6%
	Thermal transmittance	U-0.300	
	Solar heat gain coefficient	SHGC-0.35	
7. Interior Lighting	Lighting Power Density	LPD-0.9	
	Ballast Type	Electronic	
8. HVAC	Air Conditioning (Cooling)	See Mechanical Design Narrative	
	Heating		
9. Renewable Energy		See Energy Narrative	
10. Energy Model	Energy Analysis Tools	TRACE 700	
11. Outdoor Design Temperatures	Dry-bulb and Wet-bulb Temperatures	99.6% - 18°F 1% DB - 82°F 1% WB - 63°F	
12. Indoor Design Temperatures	Dry-bulb and Wet-bulb Temperatures	H - 70°F DB H – 58.5°F WB C - 75°F DB C – 62.5°F SB	
13. Climatic Zone		4C	
14. Building Energy Density	kBTU/SQFT*year	Approx 40 kBTU/SQFT*year	

Item	Component	Min. Requirements	Proposed/Designed to
15. Peak Energy Usage Electrical Gas Other	KWh		
16. Annual Energy Usage Electrical Gas Other	KWh		
17. Tons of Annual Carbon Emission	Tons		
18. LEED Version and Rating	LEED v3.0 LEED Silver	50 points	60 points
19. LEED credits earned, with percentage in Water and Energy- Gross percentage of anticipated energy savings versus baseline- Gross percentage of anticipated water savings versus baseline-			

Notes:

1. List applicable criteria, minimum requirements, and actual provided requirements.
2. Provide detailed design narrative of system and approach to meeting energy and sustainable goals in design analysis, including all energy consuming equipment, components, and energy reduction features utilized to meet energy reduction goals. On tracking sheet provide Tons of Cooling and MBH of heating. Provide energy reduction due to use of renewable energy.
3. Provide values based on applicable criteria
4. Provide two baseline values for minimum as determined by EPACT 2005 and ASHREA 90.1 calculation methodologies. Proposed column shall reflect design values proposed.
5. Energy Analysis is to be performed using Trane Trace 700. All associated Trace data files ".TRC" files are to be provided on CD or DVD. Trane trace has an archive feature by which files can be bundled and restored for use by other's review and use. Other energy analysis programs are not acceptable.

APPENDIX B

ARCHITECTURAL CALCULATIONS

PARSONS BRINCKERHOFF COMPUTATION SHEET

Subject: ENVELOPE U-FACTORS - Battalion Headquarters (Ft. Lewis)

Made by: JPB
Date: 01/30/12
Checked by:
Date:

ROOF

1. Exterior Air Film
2. Standing Seam Metal Roof
3. 3/4" CDX Plywood
4. Metal Deck
5. 9-1/2" Batt Insulation
6. 9-1/2" Batt Insulation
7. 5/8" Gyp Board
8. Interior Air Film

$R_1 := 0.17$ $R_5 := 30$

$R_2 := 0$ $R_6 := 30$

$R_3 := 0.94$ $R_7 := 0.56$

$R_4 := 0$ $R_8 := 0.61$

$$U := \frac{1}{R_1 + R_2 + R_3 + R_4 + R_5 + R_6 + R_7 + R_8}$$

$U = 0.016$

WALL

1. Exterior Air Film
2. 4" Brick
3. 1-1/2" Airspace
4. 2" Polyiso
5. 1/2" Gyp Sheathing
6. 6" Batt Insulation
7. 5/8" Gyp Board
8. Interior Air Film

$R_1 := 0.17$ $R_5 := 0.3$

$R_2 := 0.75$ $R_6 := 21$

$R_3 := 2$ $R_7 := 0.56$

$R_4 := 10$ $R_8 := 0.68$

$$U := \frac{1}{R_1 + R_2 + R_3 + R_4 + R_5 + R_6 + R_7 + R_8}$$

$U = 0.028$

FLOOR

1. Concrete Slab on Grade
2. Insulation - R-10 for 24 in.

ROOM DATA				OCCUPANCY DATA		
ROOM NO	ROOM NAME	AREA	VOLUME	TYPE	LOAD FACTOR	LOAD TOTAL
001	ENTRY VESTIBULE	83 SF	1163 CF			
002	VESTIBULE WEST	41 SF	578 CF			
003	VESTIBULE NORTH	44 SF	618 CF			
101	VISITOR WAITING AREA	251 SF	3515 CF			
102	DUTY AGENT OFFICE	79 SF	1109 CF	B	100	1
103	BREAK ROOM	385 SF	5396 CF	A-3	15	36
104	VENDING / RECYCLE AREA	145 SF	1307 CF			
105	CORRIDOR	919 SF	12860 CF			
106	HUMAN RESOURCES AREA S-1	897 SF	12554 CF	B	100	9
107	HUMAN RESOURCES S-1 OFFICER OFFICE	111 SF	1551 CF	B	100	2
108	SENIOR HR SARGEANT OFFICE	110 SF	1538 CF	B	100	2
109	SENIOR MAINTENANCE SUPERVISOR OFFICE	110 SF	1542 CF	B	100	2
110	SUPPLY MANAGER OFFICE	111 SF	1551 CF	B	100	2
111	LOGISTICS OPERATIONS MANAGER S-4 OFFICE	115 SF	1608 CF	B	100	2
112	SUPPLY ROOM	75 SF	674 CF	S	300	
113	LOGISTICS OPERATIONS OPEN AREA S-4	458 SF	6417 CF	B	100	5
114	INFORMATION MANAGEMENT AREA S-6	435 SF	6087 CF	B	100	5
115	SECTION CHIEF OFFICE	116 SF	1629 CF	B	100	2
116	INFORMATION MANAGEMENT S-6 OFFICER OFFICE	115 SF	1616 CF	B	100	2
117	SUPPLY ROOM	127 SF	1773 CF	S	300	1
118	COMMANDER OFFICE	160 SF	2240 CF	B	100	2
119	SARGEANT OFFICE	104 SF	1451 CF	B	100	2
120	ARMS VAULT	94 SF	842 CF	S	300	1
121	TABLE OF ORGANIZATION AND EQUIPMENT STORAGE	281 SF	3939 CF	S	300	1
122	SUPPLY ROOM	225 SF	3156 CF	S	300	1
123	COMPANY OPERATIONS FACILITY AREA	914 SF	12790 CF	B	100	10
124	CHAPLAIN OFFICE	106 SF	1480 CF	B	100	2
125	CHAPLAIN ASSISTANT OFFICE	101 SF	1417 CF	B	100	2
126A	CLASSROOM	1071 SF	14990 CF	E	20	56
126B	CLASSROOM STORAGE ROOM	131 SF	1829 CF	S	300	1
127A	TELECOM ROOM 1	110 SF	1540 CF	B	100	1
127B	SIPRNET ROOM	60 SF	540 CF			
128	ELECTRICAL ROOM	111 SF	1553 CF	M/E	300	1
129	MECHANICAL ROOM	509 SF	7120 CF	M/E	300	2
130	JANITOR	36 SF	507 CF	NA		
131	CORRIDOR	298 SF	4168 CF			
132A	WOMEN	173 SF	2426 CF	B	100	3
132B	WOMEN SHOWERS	90 SF	1260 CF			
133A	MEN	174 SF	2432 CF	B	100	3
133B	MEN SHOWERS	73 SF	1019 CF			
134	CLOSET	33 SF	461 CF	S	300	1
135	MESSAGE CENTER	76 SF	1067 CF	B	100	1
136	TELECOM ROOM	93 SF	1295 CF	B	100	1
137	CBRN STAFF ROOM	113 SF	1589 CF	B	100	2
138	POLYGRAPH OFFICE W-2	114 SF	1598 CF	B	100	2
139	POLYGRAPH OFFICE W-3	140 SF	1955 CF	B	100	2
140	CORRIDOR	116 SF	1627 CF	NA		
141	OBSERVATION ROOM	51 SF	719 CF	B	100	1
142	POLYGRAPH EXAM ROOM	116 SF	1621 CF	B	100	2
143	LOG SECURITY ROOM	114 SF	1590 CF	B	100	2
144	GENERAL STORAGE ROOM	151 SF	2116 CF	S	300	1
145	EVIDENCE PROCESSING ROOM	141 SF	1973 CF	B	100	2
146	EVIDENCE DEPOSITORY ROOM	259 SF	3630 CF	S	300	1
147	SECURE STORAGE ROOM	151 SF	2111 CF	S	300	1
148	CRIMINAL INTELLIGENCE OFFICE	108 SF	1518 CF	B	100	2
149	SUPRESSION CRIMINAL INVESTIGATOR OFFICE	115 SF	1614 CF	B	100	2
150	INTELLIGENCE SURVEILLANCE & RECONNAISSANCE/ OPERATIONS PLANS & TRAINING AREA S-2/S-3	572 SF	8007 CF	B	100	6
151	INTELLIGENCE SURVEILLANCE & RECONNAISSANCE AREA S-2	618 SF	8645 CF	B	100	7
152	OPERATIONS NCO OFFICE	136 SF	1902 CF	B	100	2
153	FORENSICS OFFICE	126 SF	1771 CF	B	100	2
154	S-2 / S-3 OFFICE	187 SF	2618 CF	B	100	2
155	CRIMINAL INVESTIGATION COMMAND OPERATIONS OFFICE	115 SF	1608 CF	B	100	2
156	COMMAND CONFERENCE ROOM	371 SF	5188 CF	A-3	15	26
157	CLOSET	28 SF	389 CF	S	300	1
158	CORRIDOR	265 SF	3709 CF	NA		
159	CLOSET	37 SF	515 CF	S	300	1
160	COMMANDER OFFICE	187 SF	2614 CF	B	100	2
161	EXECUTIVE OFFICER OFFICE	151 SF	2116 CF	B	100	2
162	COMMAND SARGEANT MAJOR OFFICE	150 SF	2097 CF	B	100	2
163	OFFICE SUPPORT TECH OFFICE	128 SF	1788 CF	B	100	2
164	RESTROOM	81 SF	1138 CF	B	100	1
		14589 SF	202372 CF			240

PARSONS BRINCKERHOFF
COMPUTATION SHEET

Prepared by: JPB
Date: 1/30/2011

SUBJECT: Minimum Plumbing Fixture Requirements per IPC 2009

				WATER CLOSETS		LAVATORIES				
PROJECT BUILDING	CLASS	OCCUPANCY TYPE	NO. OF PEOPLE	MALE	FEMALE	MALE	FEMALE	SHOWERS	DRINKING FOUNTAINS	OTHER
RA 5-9	Business	B	11	1		1	1	-	-	1 service sink
RA 10-15	Business	B	19	1	1	1	1	-	1	1 service sink
Detachment 24	Business	B	30	1	1	1	1	-	1	1 service sink
Battalion HQ	Business	B	50 + 50 transient	2	2	2	2	-	1	1 service sink
Vehicle Processing	Storage	S-1	2	1		1		See Section 411 of IPC	-	1 service sink

NOTE: Separate facilites are not required for structures with a total occupant load of 15 or less. This applies to the RA 5-9. This also applies to drinking fountain requirements.

APPENDIX C

STRUCTURAL CALCULATIONS

CIC – BATTALION HEADQUARTERS

Ft. Lewis, Washington

Structural Calculations for
30% Design Development
24-Apr-2012

Prepared for ACOE By:

PARSONS BRINCKERHOFF

6161 Kempsville Circle
Suite 110
Norfolk, VA 23502
+1.757.466.1732

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Code Search

CIC – Battalion Headquarters; Ft. Lewis, Washington

STRUCTURAL CALCULATIONS

FOR

CIC Battalion HQ Building

Ft. Lewis, WA

Parsons Brinckerhoff
6161 Kemspville Cir, Suite 110
Norfolk, VA
757-466-1732

JOB TITLE CIC Battalion HQ Building

JOB NO. 173133C SHEET NO.
CALCULATED BY T.Corwith DATE 4/27/12
CHECKED BY MTS DATE 6/5/12

www.struware.com

Code Search

I. Code: International Building Code 2006

II. Occupancy:

Occupancy Group = B Business

III. Type of Construction:

Fire Rating:
Roof = 0.0 hr
Floor = 0.0 hr

IV. Live Loads:

Roof angle (θ) 5.00 / 12 22.6 deg

Roof 0 to 200 sf: 19 psf
200 to 600 sf: 22.8 - 0.019Area, but not less than 12 psf
over 600 sf: 12 psf

Floor	100 psf
Stairs & Exitways	100 psf
Balcony / Deck	100 psf
Mechanical	125 psf
Partitions	N/A

V. Wind Loads : ASCE 7 - 05

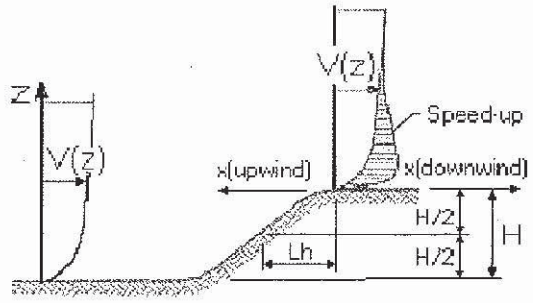
Importance Factor	1.00
Basic Wind speed	85 mph
Directionality (Kd)	0.85
Mean Roof Ht (h)	24.0 ft
Parapet ht above grd	0.0 ft
Minimum parapet ht	0.0 ft
Exposure Category	C
Enclosure Classif.	Enclosed Building
Internal pressure	+/-0.18
Type of roof	Gable
Building length (L)	173.3 ft
Least width (B)	88.0 ft
Kh case 1	0.937
Kh case 2	0.937

Topographic Factor (Kzt)

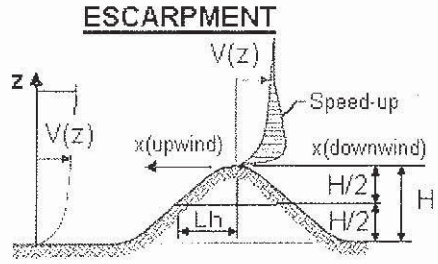
Topography	Flat	
Hill Height (H)	0.0 ft	H< 15ft;exp C
Half Hill Length (Lh)	0.0 ft	∴ Kzt=1.0
Actual H/Lh =	0.00	
Use H/Lh =	0.00	
Modified Lh =	0.0 ft	
From top of crest: x=	0.0 ft	
Bldg up/down wind?	downwind	

H/Lh= 0.00	K_1 =	0.000
x/Lh = 0.00	K_2 =	0.000
z/Lh = 0.00	K_3 =	1.000

At Mean Roof Ht:
Kzt = $(1+K_1K_2K_3)$^2 = 1.000



ESCARPMENT



2D RIDGE or 3D AXISYMMETRICAL HILL

V. Wind Loads - cont.:

Gust Effect Factor

h =	24.0 ft
use this h :	24.0 ft
B =	88.0 ft
Calculated /z =	15.0 ft
Use this /z :	15.0 ft

Flexible structure if natural frequency < 1 Hz (T > 1 second).
However, rule of thumb if building is if h/B < 4 then rigid structure.
h/B = 0.27 Therefore, probably rigid structure

G = 0.85 Using rigid structure default

Rigid Structure

$/\varepsilon$ =	0.20
l =	500 ft
z_{min} =	15 ft
c =	0.20
g_Q, g_v =	3.4
L_z =	427.1 ft
Q =	0.89
I_z =	0.23
G =	0.87 use G = 0.85

Flexible or Dynamically Sensitive Structure

Natural Frequency (n_1) =	0.0 Hz			
Damping ratio (β) =	0			
/b =	0.65			
$/\alpha$ =	0.15			
Vz =	71.8			
N_1 =	0.00			
R_n =	0.000			
R_h =	28.282	η =	0.000	h = 24.0 ft
R_B =	28.282	η =	0.000	
R_L =	28.282	η =	0.000	
g_R =	0.000			
R =	0.000			
G =	0.000			

Enclosure Classification

Test for Enclosed Building: A building that does not qualify as open or partially enclosed.

Test for Open Building: All walls are at least 80% open.
Ao ≥ 0.8Ag

Test for Partially Enclosed Building:

	Input		Test	
Ao	0.0 sf	Ao ≥ 1.1Aoi	YES	
Ag	0.0 sf	Ao > 4' / 0.01Ag	NO	
Aoi	0.0 sf	Aoi / Agi ≤ 0.20	NO	Building is NOT Partially Enclosed.
Agi	0.0 sf			

Conditions to qualify as Partially Enclosed Building. Must satisfy all of the following:
Ao >= 1.1Aoi
Ao > smaller of 4' or 0.01 Ag
Aoi / Agi <= 0.20
Where:
Ao = the total area of openings in a wall that receives positive external pressure.
Ag = the gross area of that wall in which Ao is identified.
Aoi = the sum of the areas of openings in the building envelope (walls and roof) not including Ao.
Agi = the sum of the gross surface areas of the building envelope (walls and roof) not including Ag.

Reduction Factor for large volume partially enclosed buildings (Ri):

If the partially enclosed building contains a single room that is unpartitioned , the internal pressure coefficient may be multiplied by the reduction factor Ri.

Total area of all wall & roof openings (Aog):		0 sf
Unpartitioned internal volume (Vi) :		0 cf
	Ri =	1.00

Altitude adjustment to constant 0.00256 :

Altitude = 0 feet
Constant = 0.00256
Average Air Density = 0.0765 lbm/ft^3

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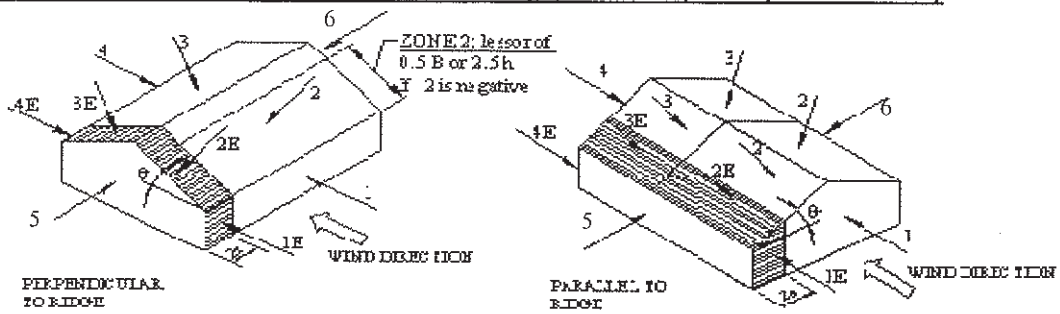
V. Wind Loads - MWFRS h≤60' (Low-rise Buildings) Enclosed/partially enclosed only



Torsional loads are 25% of zones 1 - 4. See code for loading diagram

Transverse Direction

Kz = Kh (case 1) = 0.94
Base pressure (qh) = **14.7 psf**
GCpi = +/-0.18

Longitudinal Direction

Edge Strip (a) 8.8 ft
End Zone (2a) 17.6 ft
Zone 2 length = 44.0 ft

Surface	Transverse Direction Perpendicular θ = 22.6 deg GCpf	w/-GCpi	w/+GCpi	Longitudinal Direction Parallel θ = 0.0 deg GCpf	w/-GCpi	w/+GCpi
1	0.54	0.72	0.36	0.40	0.58	0.22
2	-0.45	-0.27	-0.63	-0.69	-0.51	-0.87
3	-0.47	-0.29	-0.65	-0.37	-0.19	-0.55
4	-0.41	-0.23	-0.59	-0.29	-0.11	-0.47
5	-0.45	-0.27	-0.63	-0.45	-0.27	-0.63
6	-0.45	-0.27	-0.63	-0.45	-0.27	-0.63
1E	0.77	0.95	0.59	0.61	0.79	0.43
2E	-0.72	-0.54	-0.90	-1.07	-0.89	-1.25
3E	-0.65	-0.47	-0.83	-0.53	-0.35	-0.71
4E	-0.60	-0.42	-0.78	-0.43	-0.25	-0.61

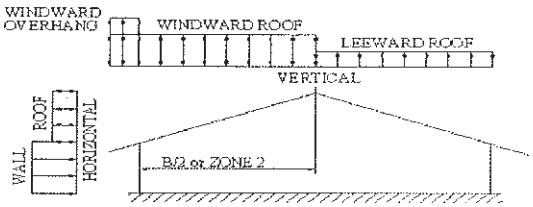
Wind Surface pressures (psf)

1		10.6	5.3	8.5	3.2
2		-4.0	-9.3	-7.5	-12.8
3		-4.2	-9.5	-2.8	-8.1
4		-3.5	-8.8	-1.6	-6.9
5		-4.0	-9.3	-4.0	-9.3
6		-4.0	-9.3	-4.0	-9.3
1E		14.0	8.7	11.6	6.3
2E		-7.9	-13.2	-13.1	-18.4
3E		-6.9	-12.2	-5.2	-10.5
4E		-6.2	-11.5	-3.7	-9.0

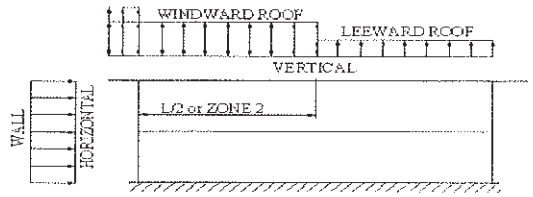
Windward roof overhangs: 10.0 psf (upward) add to windward roof pressure

Parapet

Windward parapet: 0.0 psf (GCpn = +1.5)
Leeward parapet: 0.0 psf (GCpn = -1.0)



TRANSVERSE ELEVATION



LONGITUDINAL ELEVATION

Horizontal MWFRS Simple Diaphragm Pressures (psf)

Transverse direction (normal to L)

Interior Zone: Wall 14.0 psf
Roof 0.2 psf
End Zone: Wall 20.2 psf
Roof -1.0 psf

Longitudinal direction (parallel to L)

Interior Zone: Wall 10.2 psf
End Zone: Wall 15.3 psf

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V. Wind Loads - Components & Cladding: Buildings h≤60' & Alternate design 60'<h<90'

Kz = Kh (case 1) = 0.94
Base pressure (qh) = **14.7 psf**
Roof Angle = 22.6 deg

GCpi = +/-0.18
a = 8.8 ft

NOTE: If tributary area is greater than 700sf, MWFRS pressure may be used.

Type of roof = Gable

Roof

	GCp +/- GCpi			Surface Pressure (psf)			User input	
Area	10 sf	50 sf	100 sf	10 sf	50 sf	100 sf	20 sf	250 sf
Negative Zone 1	-1.08	-1.01	-0.98	-15.9 psf	-14.9 psf	-14.4 psf	-15.5 psf	-14.4 psf
Negative Zone 2	-1.88	-1.53	-1.38	-27.7 psf	-22.6 psf	-20.3 psf	-25.5 psf	-20.3 psf
Negative Zone 3	-2.78	-2.36	-2.18	-41.0 psf	-34.8 psf	-32.1 psf	-38.3 psf	-32.1 psf
Positive All Zones	0.68	0.54	0.48	10.0 psf	10.0 psf	10.0 psf	10.0 psf	10.0 psf
Overhang Zone 2	-2.20	-2.20	-2.20	-32.4 psf	-32.4 psf	-32.4 psf	-32.4 psf	-32.4 psf
Overhang Zone 3	-3.70	-2.86	-2.50	-54.5 psf	-42.2 psf	-36.8 psf	-49.2 psf	-36.8 psf

Walls

	GCp +/- GCpi			Surface Pressure (psf)			User input	
Area	10 sf	100 sf	500 sf	10 sf	100 sf	500 sf	50 sf	200 sf
Negative Zone 4	-1.28	-1.10	-0.98	-18.9 psf	-16.3 psf	-14.4 psf	-17.0 psf	-15.5 psf
Negative Zone 5	-1.58	-1.23	-0.98	-23.3 psf	-18.1 psf	-14.4 psf	-19.6 psf	-16.5 psf
Positive Zone 4 & 5	1.18	1.00	0.88	17.4 psf	14.8 psf	13.0 psf	15.6 psf	14.0 psf

Parapet

qp = 0.0 psf

CASE A = pressure towards building
CASE B = pressure away from building

	Surface Pressure (psf)			User input
Solid Parapet Pressure	10 sf	100 sf	500 sf	40 sf
CASE A : Interior zone :	0.0 psf	0.0 psf	0.0 psf	0.0 psf
Corner zone :	0.0 psf	0.0 psf	0.0 psf	0.0 psf
CASE B : Interior zone :	0.0 psf	0.0 psf	0.0 psf	0.0 psf
Corner zone :	0.0 psf	0.0 psf	0.0 psf	0.0 psf

Rooftop Structures & Equipment

Dist from mean roof height to centroid of Af = 0.0 ft
Height of equipment (he) = 0.0 ft

Gust Effect Factor (G) = 0.85
Base pressure (qz) = **17.3 Kd** psf

Cross-Section Square
Directionality (Kd) 0.90

Width (D) 10.0 ft
Type of Surface N/A

h/D = 0.00

Square (wind along diagonal)

Cf = 1.00
Af = 10.0 sf
Adjustment Factor (Adj) = 1.90
F = qz G Cf Af Adj= **25.2 Af**
F = 252 lbs

Square (wind normal to face)

C_f = 1.30
A_f = 10.0 sf
Adjustment Factor (Adj) = 1.900
F = q_z G C_f A_f Adj= **32.8 Af**
F = 328 lbs

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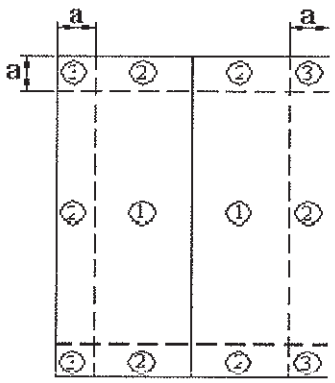
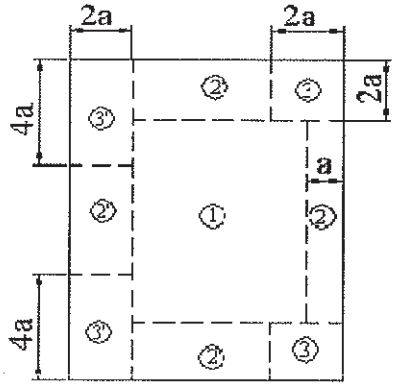
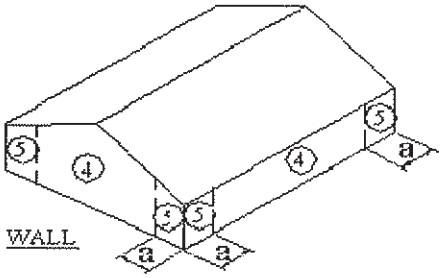
Location of Wind Pressure Zones

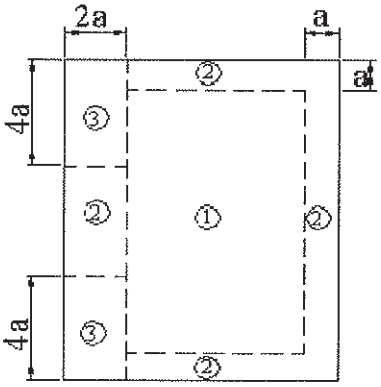


Gable θ ≤ 7 degrees and
Monoslope ≤ 3 degrees

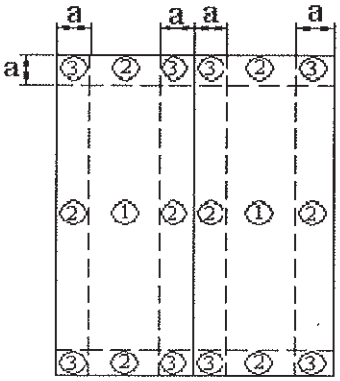


Monoslope roofs
3° < θ ≤ 10°

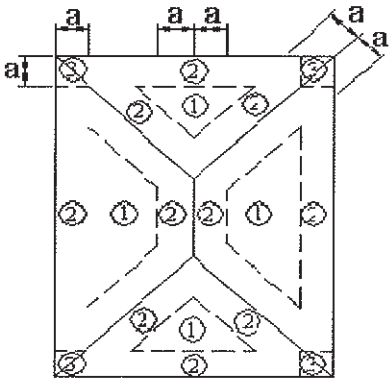




Monoslope roofs 10° < θ ≤ 30°



Gable 7 < θ ≤ 45 degrees



Hip 7 < θ < 27 degrees

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VII. Snow Loads :

Roof slope	=	22.6 deg
Horiz. eave to ridge dist (W)	=	35.0 ft
Roof length parallel to ridge (L)	=	173.3 ft

Type of Roof		Hip and gable w/ trussed systems
Ground Snow Load	Pg =	15.0 psf
Importance Category	=	II
Importance Factor	I =	1.0
Thermal Factor	Ct =	1.00
Exposure Factor	Ce =	1.0
Pf = 0.7*Ce*Ct*I*Pg	=	10.5 psf
Pf min	=	0.0 psf
Flat Roof Snow Load	Pf =	10.5 psf
Rain on Snow Surcharge Angle	=	0.70 deg
Code Maximum Rain Surcharge		5.0 psf
Rain on Snow Surcharge	=	0.0 psf
Unobstructed Slippery Surface (per Section 7.4)	=	no
Sloped-roof Factor	Cs =	1.00

Exposure Factor, Ce			
	Exposure of roof		
Terrain	Fully	Partially	Sheltered
A	n/a	1.1	1.3
B	0.9	1.0	1.2
C	0.9	1.0	1.1
D	0.8	0.9	1.0
Above treeline	0.7	0.8	n/a
Alaska-no trees	0.7	0.8	n/a

Design Roof Snow Load (Ps) = **10.5 psf** ("balanced" snow load)

Building Official Minimum = 10.5 psf

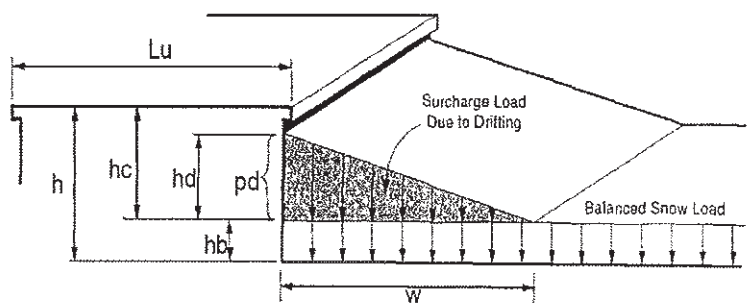
NOTE: Alternate spans of continuous beams and other areas shall be loaded with half the design roof snow load so as to produce the greatest possible effect - see code.

Unbalanced Snow Loads - for Hip & Gable roofs only

Larger of 2.38 degrees or 70/W + 0.5 =	2.5 deg	**Unbalanced snow loads must be applied**
Windward snow load =	3.2 psf	= 0.3Ps
Leeward snow load from ridge to 6.8' =	27.4 psf	= hdγ / √S + Ps
Leeward snow load from 6.8' to the eave =	10.5 psf	= Ps

Leeward Snow Drifts - from adjacent higher roof

Upper roof length	lu =	0.0 ft
Projection height	h =	0.0 ft
Building separation	s =	0.0 ft
Adjacent structure factor		1.00
Snow density	γ =	16.0 pcf
Balanced snow height	hb =	0.66 ft
	hc =	-0.66 ft
hc/hb <0.2 = -1.0	**Therefore, no drift**	
Drift height	hd =	0.00 ft
Drift width	w =	-10.45 ft
Surcharge load:	pd = g*hd =	**0.0 psf**



Windward Snow Drifts - Against walls, parapets, etc more than 15' long

Building roof length	lu =	0.0 ft
Projection height	h =	0.0 ft
Snow density	γ =	16.0 pcf
Balanced snow height	hb =	0.66 ft
	hc =	-0.66 ft
hc/hb <0.2 = -1.0	**Therefore, no drift**	
Drift height	hd =	0.00 ft
Drift width	w =	-5.88 ft
Surcharge load:	pd = g*hd =	**0.0 psf**

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VI. Seismic Loads: ASCE 7-05

Occupancy Category: II
Importance Factor (I) : 1.00
Site Class : D

Ss (0.2 sec) = 117.00 %g
S1 (1.0 sec) = 41.00 %g

Fa =	1.032	Sms =	1.207	S_{DS} =	0.805	Design Category =	D
Fv =	1.590	Sm1 =	0.652	S_{D1} =	0.435	Design Category =	D

Seismic Design Category = **D**
Number of Stories: 1
Structure Type: Not applicable
Horizontal Struct Irregularities: No plan Irregularity
Vertical Structural Irregularities: No vertical Irregularity
Flexible Diaphragms: Yes
Building System: **Building Frame Systems**
Seismic resisting system: **Ordinary steel concentrically braced frames**
System Building Height Limit: **35ft (see code footnote for exception)**
Actual Building Height (hn) = 24.0 ft
See ASCE7 Section 12.2.5 for exceptions and other system limitations

DESIGN COEFFICIENTS AND FACTORS

Response Modification Factor (R) = 3
System Over-Strength Factor (Ωo) = 2
Deflection Amplification Factor (Cd) = 3.25
S_{DS} = 0.805
S_{D1} = 0.435

ρ = redundancy coefficient

Seismic Load Effect (E) = ρQ_E +/- $0.2S_{DS}$ D = ρQ_E +/- 0.161D — Q_E = horizontal seismic force
Special Seismic Load Effect (E) = $\Omega o Q_E$ +/- $0.2S_{DS}$ D = 2.0 Q_E +/- 0.161D — D = dead load

PERMITTED ANALYTICAL PROCEDURES

Index Force Analysis (Seismic Category A only) Method Not Permitted

Simplified Analysis Use Equivalent Lateral Force Analysis

Equivalent Lateral-Force Analysis - Permitted

Building period coef. (C_T) =	0.020			Cu = 1.40
Approx fundamental period (Ta) =	$C_T h_n^x$ =	0.217 sec	x= 0.75	Tmax = CuTa = 0.304
User calculated fundamental period (T) =		0 sec		Use T = 0.217
Long Period Transition Period (TL) =	ASCE7 map =	16		
Seismic response coef. (Cs) =	SdsI/R =	0.268		
need not exceed Cs =	Sd1 I /RT =	0.668		
but not less than Cs =	0.044Sds =	0.035		
USE Cs =		0.268		

Design Base Shear V = 0.268W

Model & Seismic Response Analysis - Permitted (see code for procedure)

ALLOWABLE STORY DRIFT

Structure Type: All other structures

Allowable story drift = 0.020hsx where hsx is the story height below level x

VI. Seismic Loads - cont. :

Seismic Design Category (SDC)= D

CONNECTIONS

Force to connect smaller portions of structure to remainder of structure

$Fp = 0.133S_{DS}w_p =$ 0.11 w_p
or $Fp = 0.5w_p =$ 0.05 w_p Use Fp = 0.11 w_p w_p = weight of smaller portion

Beam, girder or truss connection for resisting horizontal force parallel to member

F_P = no less than 0.05 times dead plus live load vertical reaction

Anchorage of Concrete or Masonry Walls to elements providing lateral support

$Fp = 0.8IeSdsWw =$ 0.644 w_w
or $Fp = 0.1w_w =$ 0.10 w_w Use Fp = 0.64 w_w but not less than 280.0 plf = 400SdsIe
Connection force given is for flexible diaphragms (use architectural components for ridgid diaphrams)

MEMBER DESIGN

Bearing Walls and Shear Walls (out of plane force)

$Fp = 0.40IeS_{DS}w_w =$ 0.322 w_w
or $Fp = 0.1w_w =$ 0.10 w_w Use Fp = 0.32 w_w

Diaphragms

Fp = (Sum Fi / Sum Wi)Wpx + Vpx = (Sum Fi / Sum Wi)Wpx + Vpx
need not exceed 0.4 SdsIeWpx + Vpx = 0.322 Wpx + Vpx
but not less than 0.2 SdsIeWpx + Vpx = 0.161 Wpx + Vpx

ARCHITECTURAL COMPONENTS SEISMIC COEFFICIENTS

Architectural Component : 1. Interior Nonstructural Walls and Partitions
b. All other walls and partitions

Importance Factor (Ip) : 1.0

Component Amplification Factor (a_p) = 1 h= 24.0 feet
Comp Response Modification Factor (R_p) = 2.5 z= 20.0 feet z/h = 0.83

$Fp = 0.4a_pSdsIpWp(1+2z/h)/Rp =$ 0.343 Wp
not greater than Fp = 1.6SdsIpWp = 1.288 Wp
but not less than Fp = 0.3SdsIpWp = 0.241 Wp use Fp = 0.343 Wp

MECH AND ELEC COMPONENTS SEISMIC COEFFICIENTS

Seismic Design Category D & Ip=1.0, therefore see ASCE7 Section 13.1.4 for exceptions

Mech or Electrical Component : Other mechanical or electrical components.

Importance Factor (Ip) : 1.0

Component Amplification Factor (a_p) = 1 h= 24.0 feet
Comp Response Modification Factor (R_p) = 1.5 z= 20.0 feet z/h = 0.83

$Fp = 0.4a_pSdsIpWp(1+2z/h)/Rp =$ 0.572 Wp
not greater than Fp = 1.6SdsIpWp = 1.288 Wp
but not less than Fp = 0.3SdsIpWp = 0.241 Wp use Fp = 0.572 Wp

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Roof Design Loads

Items	Description	Multiple	psf (max)	psf (min)
Roofing	Metal, copper, or tin sheets		1.5	1.0
Decking	Metal Roof deck, 1.5, 20 ga.		2.5	2.0
Framing	Steel roof beams & girders		5.0	3.0
Insulation	Rigid insulation, per 1"	x 6.0"	9.0	4.5
Ceiling	Suspended acoustical tile	x 1 ply(s)	1.8	1.0
Mech & Elec	Mech. & Elec.		2.0	8.0
Sprinklers	Sprinklers		2.0	0.0
Other	None		0.0	0.0
		Actual Dead Load	◉ 23.8	◉ 19.5
		Use this DL instead	○ 20.0	○ 9.0
		Live Load	19.0	0.0
		Snow Load	10.5	0.0
		Wind (zone 2 - 100sf)	10.0	-20.3
ASD Loading		Dead + Live Load	42.8	-
		Dead + 0.75(Wind + Live) Load	45.6	-
		0.6*Dead + Wind Load	-	-8.6
LRFD Loading		1.2D + 1.6 Lr + 0.8W	67.0	-
		1.2D + 1.6W + 0.5Lr	54.1	-
		0.9D + 1.6W	-	-15.0

Roof Live Load Reduction Roof angle 5.00 / 12 22.6 deg

0 to 200 sf: 19.0 psf
200 to 600 sf: 22.8 - 0.019Area, but not less than 12 psf
over 600 sf: 12.0 psf

	300 sf	17.10
	400 sf	15.20
	500 sf	13.30
User Input:	450 psf	14.25

Parsons Brinckerhoff
6161 Kemspville Cir, Suite 110
Norfolk, VA
757-466-1732

JOB TITLE CIC Battalion HQ Building

JOB NO. 173133C SHEET NO.
CALCULATED BY T.Corwith DATE 4/27/12
CHECKED BY MTS DATE 6/5/12

www.struware.com

CODE SUMMARY

Code: International Building Code 2006

Live Loads:

Roof	0 to 200 sf:	19 psf
	200 to 600 sf:	22.8 - 0.019Area, but not less than 12 psf
	over 600 sf:	12 psf

Floor	100 psf
Stairs & Exitways	100 psf
Balcony / Deck	100 psf
Mechanical	125 psf
Partitions	N/A

Dead Loads:

Floor	0.0 psf
Roof	23.8 psf

Roof Snow Loads:

Design Roof Snow load	=	10.5 psf
Flat Roof Snow Load	Pf =	10.5 psf
Ground Snow Load	Pg =	15.0 psf
Rain on Snow Surcharge	=	0.0 psf
Snow Exposure Factor	Ce =	1.00
Importance Factor	I =	1.00
Thermal Factor	Ct =	1.00
Sloped-roof Factor	Cs =	1.00

Wind Design Data:

Basic Wind speed	85 mph
Mean Roof Ht (h)	24.0 ft
Building Category	II
Importance Factor	1.00
Exposure Category	C
Enclosure Classif.	Enclosed Building
Internal pressure Coef.	+/-0.18
Directionality (Kd)	0.85

Earthquake Design Data:

Occupancy Category:	=	II
Importance Factor	I =	1.00
Mapped spectral response	Ss =	117.00 %g
accelerations	S1 =	41.00 %g
Site Class	=	D
Spectral Response Coef.	Sds =	0.805
	Sd1 =	0.435
Seismic Design Category	=	D
Basic Structural System	=	Building Frame Systems
Seismic Resisting System	=	Ordinary steel concentrically braced frames
Design Base Shear	V =	0.268W
Seismic Response Coef.	Cs =	0.268
Response Modification Factor	R =	3
Analysis Procedure	=	Equivalent Lateral-Force Analysis

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JOB TITLE CIC Battalion HQ Building

JOB NO. 173133C
SHEET NO.
CALCULATED BY T.Corwith
DATE 4/27/12
CHECKED BY MTS
DATE 6/5/12

CODE SUMMARY- continued

Component and cladding wind pressures

h>60 feet

h<= 60' - can't use procedure.

Roof

Area	Surface Pressure (psf) 10 sf	50 sf	100 sf
Negative Zone 1	-15.9	-14.9	-14.4
Negative Zone 2	-27.7	-22.6	-20.3
Negative Zone 3	-41.0	-34.8	-32.1
Positive All Zones	10.0	10.0	10.0
Overhang Zone 2	-32.4	-32.4	-32.4
Overhang Zone 3	-54.5	-42.2	-36.8

Wall

Area	Surface Pressure (psf) 20 sf	100 sf	500 sf
Negative Zone 4	-15.9	-14.4	-13.0
Negative Zone 5	-29.2	-23.3	-17.4
Positive Zone 4 & 5			
0 to 15'	14.7	12.7	10.7
20 ft	15.4	13.3	11.2
24 ft	15.9	13.7	11.5
33 ft	16.8	14.5	12.1

Parapet

Area	Solid Parapet Pressure (psf) 10 sf	100 sf	500 sf
CASE A: Interior zone	0.0	0.0	0.0
Corner zone	0.0	0.0	0.0
CASE B: Interior zone	0.0	0.0	0.0
Corner zone	0.0	0.0	0.0

TABLE E-1

State	Base / City	Ground Snow (psf)	Wind Speed (mph)	Frost Penetration (inches)	Ground Snow (kPa)	Wind Speed (km/h)	Frost Penetration (mm)
Virginia	**Yorktown Region:** Camp Perry Cheatham Annex Yorktown NWS	15	95	9	0.72	153	229
Washington	NS Everett	15 (b)	85		0.72(b)	137	
	Fairchild AFB	42	85	64	2.01	137	1626
	Fort Lewis / Tacoma	15 (b)	85	9	0.72(b)	137	229
	Indian Island SWC	15 (b)	85		0.72(b)	137	
	NRS Jim Creek	15 (b)	85		0.72(b)	137	
	Keyport / Bangor Engin. Sta Annex	15 (b)	85	9	0.72(b)	137	229
	McChord AFB	15	85	9	0.72	137	229
	Puget Sound Region: Bangor NSB Bremerton NS Puget Sound NSY	15 (b)	85	9	0.72(b)	137	229
	NAS Whidbey Island / Oak Harbor	15 (b)	85		0.72(b)	137	
	Seattle	15	85	9	0.72	137	229
West Virginia	Allegheny Ballistics Lab	CS	90		CS	145	
	Beckley	30	90		1.44	145	
	Huntington	20	90	22	0.96	145	559
	Sugar Grove NRS	30	90	38	1.44	145	965
Wisconsin	Fort McCoy	40	90	114	1.92	145	2896
	General Mitchell AFRC / Milwaukee	30	90	75	1.44	145	1905
	Madison	30	90	75	1.44	145	1905
Wyoming	F. E. Warren AFB	20	90	59	0.96	145	1499
American Samoa	Pago Pago / Tutuila Island	0	125	0	0.00	201	0
Mariana Islands	Guam	0	170	0	0.00	274	0
	Saipan / Tinian	0	150	0	0.00	241	0
Puerto Rico	All	0	145	0	0.00	233	0

TABLE E-2

State	Base / City	Seismic Data (Site Class B) S_S (%g)	S_1 (%g)	10/50 S_S (%g)	10/50 S_1 (%g)
Utah	Salt Lake City	153	60	61	20
	Tooele Army Depot	73	27	35	12
Virginia	Dahlgren	16	5	6	2
	Dam Neck / Virginia Beach Ocean front	11	5	4	2
	Fort A. P. Hill	18	5	7	2
	Fort Belvoir	15	5	6	2
	Fort Eustis	13	5	5	2
	Fort Lee	19	6	7	3
	Fort Monroe	12	5	5	2
	Fort Myer	15	5	6	2
	Fort Story	11	5	4	2
	Henderson Hall / Arlington	15	5	6	2
	Langley AFB / Hampton	12	5	5	2
	NAB Little Creek	11	5	5	2
	Norfolk Region: Camp Elmore Craney Island Depot Norfolk Naval Base	12	5	5	2
	Norfolk Shipyard – Naval Hospital / Portsmouth	12	5	5	2
	NSA Northwest / Chesapeake	12	5	5	2
	NAS Oceana / Virginia Beach	11	5	4	2
	MCB Quantico	17	5	7	2
	Defense Supply Ctr / Richmond	22	6	8	3
	Radford AAP	32	8		
	Wallops Island	10	4	4	2
	Yorktown Region: Camp Perry Cheatham Annex Yorktown NWS	13	5	5	2
Washington	NS Everett	118(a)	42(b)	62	20
	Fairchild AFB	39	11	13	4
	Fort Lewis / Tacoma	117	41	59	20
	Indian Island SWC	127(a)	46(b)	63	21

Building Frame Analysis

CIC – Battalion Headquarters; Ft. Lewis, Washington

Loads:

The loads given below are a summary of the loads calculated within the *code search spreadsheet* . Designed in accordance with IBC 2006/ ASCE 7-05

Live Loads

20.0 psf Roof Live Load

Dead Loads

23.8 psf All Dead Load Supported by the Steel frame at the Eave Elevation

Seismic Loads

Equivalent Lateral Force Method is Permitted

D SDC

0.020hsx Allowable drift

0.2683W Design Base shear

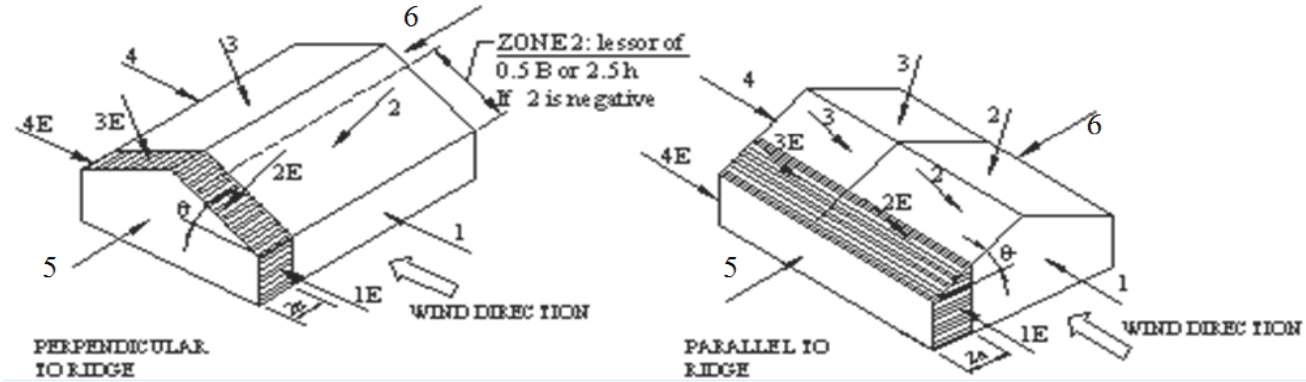
Wind Loads

Main Wind Force Resisting System				
	Wind Surface Pressure			
Zone	Transverse Direction		Longitudinal Direction	
1	10.58 psf	5.27 psf	8.55 psf	3.24 psf
2	-4.04 psf	-9.34 psf	-7.51 psf	-12.82 psf
3	-4.23 psf	-9.53 psf	-2.80 psf	-8.10 psf
4	-3.45 psf	-8.76 psf	-1.62 psf	-6.92 psf
5	-3.98 psf	-9.28 psf	-3.98 psf	-9.28 psf
6	-3.98 psf	-9.28 psf	-3.98 psf	-9.28 psf
1E	14.01 psf	8.71 psf	11.64 psf	6.34 psf
2E	-7.94 psf	-13.24 psf	-13.11 psf	-18.42 psf
3E	-6.90 psf	-12.20 psf	-5.16 psf	-10.46 psf
4E	-6.16 psf	-11.46 psf	-3.68 psf	-8.99 psf

8.80 ft Dimension a

Zone diagrams follow

Main Wind Force Resisting System Zones



Strength Design Load Combinations for member size design

16-1	1.4(D)
16-2	1.2(D) + 1.6(L) + 0.5(Lr or S)
16-3	1.2(D) + 1.6(Lr or S) + (0.5L or 0.8W)
16-4	1.2(D) + 1.6(W) + L + 0.5(Lr or S)
16-5	1.2(D) + 1.0(E) + L + 0.2(S)
16-6	0.9(D) + 1.6(W)
16-7	0.9(D) + 1.0(E)

Roof live load controls over snow load. The "S" Load will be omitted

Allowable Stress Design load combinations are used for footing size check and building deflection checks.

16-10	D + Lr
16-12a	D + (W)
16-12b	D + (0.7E)
16-13a	D + 0.75(0.7E) + 0.75(Lr)
16-13b	D + 0.75(W) + 0.75(Lr)
16-14	0.6(D) + W
16-15	0.6(D) + 0.7(E)

The above load combinations are plugged into the analysis model and used to check the design of the structure

Roof Gravity Load:

Auto	Structural Dead Load (Self Weight)
23.8 psf	SI DL
20.0 psf	RLL

**Note: The SI-DL includes an allowance for the truss and steel deck weight which are not included in the self weight for the RISA model*

Seismic Load:

14.00 ft	Eave Ht
7.00 ft	Wall half Height
10.0 psf	Wall Weight (CFS studs, wall board, stucco, and paint)
70.0 plf	Load around perimeter
345.1 plf	***DL (exterior Beam - Lines A, D)***
702.1 plf	***DL (Interior Beam - Lines B, C)***
290.0 plf	***LL (exterior Beam - Lines A, D)***
590.0 plf	***LL (Interior Beam - Lines B, C)***

**Note: To account for the loads along the transverse edge due to the hip roof configuration, the "exterior" beam load will be applied. This should provide reasonable results.*

Building Dimensions:

173.33 ft	Length
88.00 ft	Width
15,253 ft^2	Area
522.66 ft	Perimeter
14.00 ft	Eave Elevation
24.00 ft	Average Roof Elevation

Total Seismic Loading:

75.00 k	Superstructure Self Weight (From RISA)
363.02 k	SI DL Weight (used to calculate seismic load)
36.59 k	Wall Weight
474.61 k	Sum of Seismic Dead Load
0.2683W	Seismic Base Shear Factor
127.35 k	***Seismic Load (Distributed between braced frames and applied at top of frame)***

Seismic loads are distributed and applied to the model at the top of the braced frames .
Note that there are additional requirements in Chapter 12 of ASCE 7-05 due to seismic design category D
Note that AISC 341 is required for steel design.

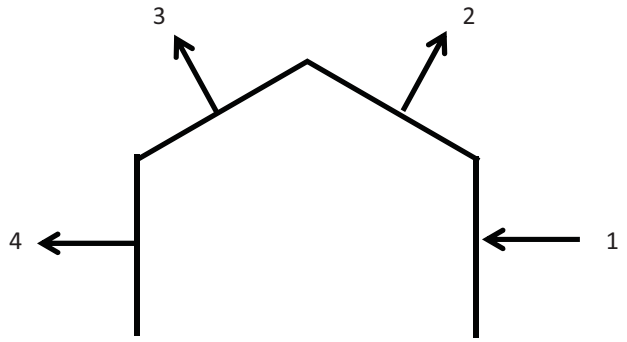
Wind Load

1 The horizontal component of the wind load on the sloped roof nearly cancels out at the two sloped sides and is therefore neglected from this calculation for 30% level design

2 The vertical component of the wind load is included for the member check

Transverse Wind Loading (Zone 1 + 4; Longitudinal Case)

88.00 ft	Width
7.00 ft	Height (Wall only)
8.80 ft	Edge Length
17.60 ft	Edge Width
70.40 ft	Non-Edge Width
15.3 psf	Edge Load (Sum of each face)
10.2 psf	Non-Edge Load (Sum of each face)
123 ft^2	Edge Area
493 ft^2	Non-Edge Area
6.90 k	***Total Transverse Wind Load***
88.00 ft	*Building Transverse Width*
0.08 klf	***Uniform Load applied at the eave normal to Grid 1 or 9***



Longitudinal Wind Loading (Zone 1 + 4; Transverse Case)

173.33 ft	Width
7.00 ft	Height (Wall only)
8.80 ft	Edge Length
17.60 ft	Edge Width
155.73 ft	Non-Edge Width
20.2 psf	Edge Load (Sum of each face)
14.0 psf	Non-Edge Load (Sum of each face)
123 ft^2	Edge Area
1,090 ft^2	Non-Edge Area
17.78 k	***Total Longitudinal Wind Load***
173.33 ft	*Building Longitudinal Width*
0.10 klf	***Uniform Load applied at the eave normal to Grid A or D***

RISA Member Design Output

Columns

RISA Label	Location	Size	Stress Ratio
M1	D7	HSS6X6X4	0.394
M2	D6	HSS6X6X4	0.243
M3	D5	HSS6X6X4	0.243
M4	D4	HSS6X6X4	0.243
M5	D3	HSS6X6X4	0.076
M6	D2	HSS6X6X4	0.054
M7	D1	HSS6X6X4	0.238
M8	C1	HSS6X6X5	0.746
M9	B1	HSS6X6X5	0.763
M10	A1	HSS6X6X4	0.401
M11	B2	HSS6X6X4	0.715
M12	B3	HSS6X6X5	0.784
M13	C2	HSS6X6X4	0.715
M14	C3	HSS8X8X6	0.279
M15	B4	HSS8X8X6	0.35
M16	C4	HSS8X8X6	0.446
M17	A2	HSS6X6X4	0.077
M18	A3	HSS6X6X4	0.099
M19	A4	HSS6X6X4	0.243
M20	A5	HSS6X6X4	0.246
M21	A6	HSS6X6X4	0.243
M22	B5	HSS6X6X5	0.794
M23	A7	HSS6X6X4	0.277
M24	B6	HSS6X6X8	0.625
M25	C5	HSS6X6X8	0.694
M26	C6	HSS6X6X8	0.694
M27	B7	HSS6X6X8	0.68
M28	C7	HSS6X6X8	0.684

RISA Member Design Output

Beams

RISA Label	Location	Size	Stress Ratio
M29	D7-C7 (Low)	W18X50	0.067
M30	C7-B7 (Low)	W18X50	0.074
M31	B7-A7 (Low)	W18X50	0.067
M32	B1-A1 (Low)	W18X50	0.445
M33	C1-B1 (Low)	W14X22	0.346
M34	D1-C1 (Low)	W14X22	0.31
M35	D1-D2	W24X68	0.139
M36	D2-D2.5	W24X68	0.078
M37	D3-D4	W24X68	0.693
M38	D4-D5	W24X68	0.693
M39	D5-D6	W24X68	0.693
M40	D6-D7	W24X68	0.693
M41	D7-C7 (High)	W24X68	0.538
M42	C6-C7	W24X94	0.733
M43	C5-C6	W24X94	0.733
M44	C4-C5	W24X94	0.733
M45	C3-C4 (High)	W24X94	0.733
M46	C2-C3	W21X44	0.864
M47	C1-C2	W21X44	0.866
M48	D1-C1 (High)	W24X68	0.558
M49	D2-C2	W14X22	0.372
M50	C3-C3	W14X22	0.449
M51	D4-C4	W14X22	0.526
M52	D5-C5	W14X22	0.526
M53	D6-C6	W14X22	0.526
M54	C7-B7 (High)	W24X68	0.498
M55	B6-B7	W24X94	0.733
M56	B5-B6 (High)	W24X94	0.733
M57	B4-B5	W24X94	0.733
M58	B3-B4	W24X94	0.733
M59	B2-B3	W21X44	0.864
M60	B1-B2	W21X44	0.866
M61	C1-B1 (High)	W24X68	0.509
M62	B1-A1 (High)	W24X68	0.551
M63	A1-A2	W24X68	0.131
M64	A2-A3	W24X68	0.13
M65	A3-A4	W24X68	0.693

RISA Member Design Output

Beams (Continued)

RISA Label	Location	Size	Stress Ratio
M66	A4-A5	W24X68	0.693
M67	A5-A6	W24X68	0.693
M68	A6-A7	W24X68	0.693
M69	B7-A7 (High)	W24X68	0.543
M70	B6-A6	W14X22	0.201
M71	B5-A5	W14X22	0.201
M72	B4-A4	W14X22	0.201
M73	B3-A3	W14X22	0.201
M74	B2-A2	W14X22	0.201
M75	C2-B2	W14X22	0.188
M76	C3-B3	W14X22	0.188
M77	C4-B4 (High)	W14X22	0.188
M78	C5-B5	W14X22	0.188
M79	C6-B6	W14X22	0.188
M80	C3-C4 (Low)	W21X50	0.532
M81	C4-B4 (Low)	W18X35	0.123
M82	B5-B5.5 (Low)	W18X35	0.01
M96	D2.5-D3	W24X68	0.078
M97	B5.5-B6 (Low)	W18X35	0.01

Braces

RISA Label	Location	Size	Stress Ratio
M83	B1-A1	HSS6X6X6	0.768
M84	D7-C7	HSS6X6X6	0.885
M85	C4-B4 (Low)	HSS8X8X6	0.498
M86	C4-B4(High)	HSS8X8X6	0.417
M87	D2.5-D3	HSS4X4X4	0.772
M88	D2-D2.5	HSS4X4X4	0.772
M89	C3-C3.5	HSS6X6X4	0.538
M90	C3.5-C4	HSS6X6X4	0.402
M91	B6-B5.5 (Low)	HSS6X6X4	0.69
M92	B5.5-B5 (High)	HSS6X6X4	0.49
M93	B5.5-B5(Low)	HSS6X6X4	0.632
M94	B6-B5.5 (High)	HSS6X6X4	0.456
M95	A4-A5	HSS6X6X4	0.789

RISA Model

CIC – Battalion Headquarters; Ft. Lewis, Washington

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Z
Global Member Orientation Plane	XY

Hot Rolled Steel Code	AISC 13th(360-05): LRFD (Direct Analysis Method)
Cold Formed Steel Code	AISI 1999: ASD
Wood Code	AF&PA NDS-97: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-05
Masonry Code	ACI 530-05/08: ASD
Aluminum Code	AA ADM1-05: ASD

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

Seismic Code	ASCE 7-05
Seismic Base Elevation (ft)	0
Ct X	.02
Ct Z	.02
T X (sec)	.217
T Z (sec)	.217
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
Ca	.36
Cv	.54
Nv	1
SD1	.435
SDS	.805
S1	.41
TL (sec)	12
Occupancy Code	4
Seismic Zone	3
Occupancy Cat	I or II
Use Gravity Self Wt in Diaphragm Mass	Yes
Use Deck Self Wt in Diaphragm Mass	Yes
Use Lateral Self Wt in Diaphragm Mass	Yes
Seismic Detailing Code	None
Om X	1
Om Z	1
Rho X	1
Rho Z	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	58	1.2
3	A992	29000	11154	.3	.65	.49	50	1.1	58	1.2
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
6	A36 Gr.36_1	29000	11154	.3	.65	.49	36	1.5	58	1.2
7	A572 Gr.50_1	29000	11154	.3	.65	.49	50	1.1	58	1.2
8	A992_1	29000	11154	.3	.65	.49	50	1.1	58	1.2
9	A500 Gr.42_1	29000	11154	.3	.65	.49	42	1.3	58	1.1
10	A500 Gr.46_1	29000	11154	.3	.65	.49	46	1.2	58	1.1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N7	N35			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
2	M2	N34	N6			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
3	M3	N5	N33			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
4	M4	N4	N32			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
5	M5	N3	N31			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
6	M6	N2	N30			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
7	M7	N1	N29			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
8	M8	N8	N51			HSS6X6X5	Column	SquareTube	A500 Gr.46	Typical
9	M9	N15	N58			HSS6X6X5	Column	SquareTube	A500 Gr.46	Typical
10	M10	N22	N36			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
11	M11	N16	N59			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
12	M12	N17	N60			HSS6X6X5	Column	SquareTube	A500 Gr.46	Typical
13	M13	N9	N52			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
14	M14	N10	N53			HSS8X8X6	Column	SquareTube	A500 Gr.46	Typical
15	M15	N18	N61			HSS8X8X6	Column	SquareTube	A500 Gr.46	Typical
16	M16	N11	N54			HSS8X8X6	Column	SquareTube	A500 Gr.46	Typical
17	M17	N23	N37			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
18	M18	N24	N38			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
19	M19	N25	N39			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
20	M20	N26	N40			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
21	M21	N27	N41			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
22	M22	N19	N62			HSS6X6X5	Column	SquareTube	A500 Gr.46	Typical
23	M23	N28	N42			HSS6X6X4	Column	SquareTube	A500 Gr.46	Typical
24	M24	N20	N63			HSS6X6X8	Column	SquareTube	A500 Gr.46	Typical
25	M25	N12	N55			HSS6X6X8	Column	SquareTube	A500 Gr.46	Typical
26	M26	N13	N56			HSS6X6X8	Column	SquareTube	A500 Gr.46	Typical
27	M27	N21	N64			HSS6X6X8	Column	SquareTube	A500 Gr.46	Typical
28	M28	N14	N57			HSS6X6X8	Column	SquareTube	A500 Gr.46	Typical
29	M29	N47	N48			W18X50	Beam	Wide Flange	A992	Typical
30	M30	N48	N49			W18X50	Beam	Wide Flange	A992	Typical
31	M31	N49	N50			W18X50	Beam	Wide Flange	A992	Typical
32	M32	N46	N45			W18X50	Beam	Wide Flange	A992	Typical
33	M33	N45	N44			W14X22	Beam	Wide Flange	A992	Typical
34	M34	N44	N43			W14X22	Beam	Wide Flange	A992	Typical
35	M35	N29	N30			W24X68	Beam	Wide Flange	A992	Typical
36	M36	N30	N70			W24X68	Beam	Wide Flange	A992	Typical
37	M37	N31	N32			W24X68	Beam	Wide Flange	A992	Typical
38	M38	N32	N33			W24X68	Beam	Wide Flange	A992	Typical
39	M39	N33	N34			W24X68	Beam	Wide Flange	A992	Typical
40	M40	N34	N35			W24X68	Beam	Wide Flange	A992	Typical
41	M41	N35	N57			W24X68	Beam	Wide Flange	A992	Typical
42	M42	N57	N56			W24X94	Beam	Wide Flange	A992	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
43	M43	N56	N55			W24X94	Beam	Wide Flange	A992	Typical
44	M44	N55	N54			W24X94	Beam	Wide Flange	A992	Typical
45	M45	N54	N53			W24X94	Beam	Wide Flange	A992	Typical
46	M46	N53	N52			W21X44	Beam	Wide Flange	A992	Typical
47	M47	N52	N51			W21X44	Beam	Wide Flange	A992	Typical
48	M48	N51	N29			W24X68	Beam	Wide Flange	A992	Typical
49	M49	N30	N52			W14X22	Beam	Wide Flange	A992	Typical
50	M50	N31	N53			W14X22	Beam	Wide Flange	A992	Typical
51	M51	N32	N54			W14X22	Beam	Wide Flange	A992	Typical
52	M52	N33	N55			W14X22	Beam	Wide Flange	A992	Typical
53	M53	N34	N56			W14X22	Beam	Wide Flange	A992	Typical
54	M54	N57	N64			W24X68	Beam	Wide Flange	A992	Typical
55	M55	N64	N63			W24X94	Beam	Wide Flange	A992	Typical
56	M56	N63	N62			W24X94	Beam	Wide Flange	A992	Typical
57	M57	N62	N61			W24X94	Beam	Wide Flange	A992	Typical
58	M58	N61	N60			W24X94	Beam	Wide Flange	A992	Typical
59	M59	N60	N59			W21X44	Beam	Wide Flange	A992	Typical
60	M60	N59	N58			W21X44	Beam	Wide Flange	A992	Typical
61	M61	N58	N51			W24X68	Beam	Wide Flange	A992	Typical
62	M62	N58	N36			W24X68	Beam	Wide Flange	A992	Typical
63	M63	N36	N37			W24X68	Beam	Wide Flange	A992	Typical
64	M64	N37	N38			W24X68	Beam	Wide Flange	A992	Typical
65	M65	N38	N39			W24X68	Beam	Wide Flange	A992	Typical
66	M66	N39	N40			W24X68	Beam	Wide Flange	A992	Typical
67	M67	N40	N41			W24X68	Beam	Wide Flange	A992	Typical
68	M68	N41	N42			W24X68	Beam	Wide Flange	A992	Typical
69	M69	N42	N64			W24X68	Beam	Wide Flange	A992	Typical
70	M70	N63	N41			W14X22	Beam	Wide Flange	A992	Typical
71	M71	N62	N40			W14X22	Beam	Wide Flange	A992	Typical
72	M72	N61	N39			W14X22	Beam	Wide Flange	A992	Typical
73	M73	N60	N38			W14X22	Beam	Wide Flange	A992	Typical
74	M74	N59	N37			W14X22	Beam	Wide Flange	A992	Typical
75	M75	N52	N59			W14X22	Beam	Wide Flange	A992	Typical
76	M76	N60	N53			W14X22	Beam	Wide Flange	A992	Typical
77	M77	N54	N61			W14X22	Beam	Wide Flange	A992	Typical
78	M78	N55	N62			W14X22	Beam	Wide Flange	A992	Typical
79	M79	N56	N63			W14X22	Beam	Wide Flange	A992	Typical
80	M80	N65	N66			W21X50	Beam	Wide Flange	A992	Typical
81	M81	N66	N67			W18X35	Beam	Wide Flange	A992	Typical
82	M82	N68	N72			W18X35	Beam	Wide Flange	A992	Typical
83	M83	N15	N46			HSS6X6X6	VBrace	Tube	A500 Gr.46	Typical
84	M84	N14	N47			HSS6X6X6	VBrace	Tube	A500 Gr.46	Typical
85	M85	N18	N66			HSS8X8X6	VBrace	Tube	A500 Gr.46	Typical
86	M86	N66	N61			HSS8X8X6	VBrace	Tube	A500 Gr.46	Typical
87	M87	N3	N70			HSS4X4X4	VBrace	Tube	A500 Gr.46	Typical
88	M88	N70	N2			HSS4X4X4	VBrace	Tube	A500 Gr.46	Typical
89	M89	N10	N71			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
90	M90	N71	N54			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
91	M91	N20	N72			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
92	M92	N72	N62			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
93	M93	N19	N72			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
94	M94	N72	N63			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
95	M95	N25	N40			HSS6X6X4	VBrace	Tube	A500 Gr.46	Typical
96	M96	N70	N31			W24X68	Beam	Wide Flange	A992	Typical
97	M97	N72	N69			W18X35	Beam	Wide Flange	A992	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7						Yes			None
8	M8						Yes			None
9	M9						Yes			None
10	M10						Yes			None
11	M11						Yes			None
12	M12						Yes			None
13	M13						Yes			None
14	M14						Yes			None
15	M15						Yes			None
16	M16						Yes			None
17	M17						Yes			None
18	M18						Yes			None
19	M19						Yes			None
20	M20						Yes			None
21	M21						Yes			None
22	M22						Yes			None
23	M23						Yes			None
24	M24						Yes			None
25	M25						Yes			None
26	M26						Yes			None
27	M27						Yes			None
28	M28						Yes			None
29	M29	BenPIN	BenPIN				Yes			None
30	M30	BenPIN	BenPIN				Yes			None
31	M31	BenPIN	BenPIN				Yes			None
32	M32	BenPIN	BenPIN				Yes			None
33	M33	BenPIN	BenPIN				Yes			None
34	M34	BenPIN	BenPIN				Yes			None
35	M35	BenPIN	BenPIN				Yes			None
36	M36	BenPIN					Yes			None
37	M37	BenPIN	BenPIN				Yes			None
38	M38	BenPIN	BenPIN				Yes			None
39	M39	BenPIN	BenPIN				Yes			None
40	M40	BenPIN	BenPIN				Yes			None
41	M41	BenPIN	BenPIN				Yes			None
42	M42	BenPIN	BenPIN				Yes			None
43	M43	BenPIN	BenPIN				Yes			None
44	M44	BenPIN	BenPIN				Yes			None
45	M45	BenPIN	BenPIN				Yes			None
46	M46	BenPIN	BenPIN				Yes			None
47	M47	BenPIN	BenPIN				Yes			None
48	M48	BenPIN	BenPIN				Yes			None
49	M49	BenPIN	BenPIN				Yes			None
50	M50	BenPIN	BenPIN				Yes			None
51	M51	BenPIN	BenPIN				Yes			None
52	M52	BenPIN	BenPIN				Yes			None
53	M53	BenPIN	BenPIN				Yes			None
54	M54	BenPIN	BenPIN				Yes			None
55	M55	BenPIN	BenPIN				Yes			None
56	M56	BenPIN	BenPIN				Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	TOM	Inactive	Seismic Design ...
57	M57	BenPIN	BenPIN				Yes			None
58	M58	BenPIN	BenPIN				Yes			None
59	M59	BenPIN	BenPIN				Yes			None
60	M60	BenPIN	BenPIN				Yes			None
61	M61	BenPIN	BenPIN				Yes			None
62	M62	BenPIN	BenPIN				Yes			None
63	M63	BenPIN	BenPIN				Yes			None
64	M64	BenPIN	BenPIN				Yes			None
65	M65	BenPIN	BenPIN				Yes			None
66	M66	BenPIN	BenPIN				Yes			None
67	M67	BenPIN	BenPIN				Yes			None
68	M68	BenPIN	BenPIN				Yes			None
69	M69	BenPIN	BenPIN				Yes			None
70	M70	BenPIN	BenPIN				Yes			None
71	M71	BenPIN	BenPIN				Yes			None
72	M72	BenPIN	BenPIN				Yes			None
73	M73	BenPIN	BenPIN				Yes			None
74	M74	BenPIN	BenPIN				Yes			None
75	M75	BenPIN	BenPIN				Yes			None
76	M76	BenPIN	BenPIN				Yes			None
77	M77	BenPIN	BenPIN				Yes			None
78	M78	BenPIN	BenPIN				Yes			None
79	M79	BenPIN	BenPIN				Yes			None
80	M80	BenPIN	BenPIN				Yes			None
81	M81	BenPIN	BenPIN				Yes			None
82	M82	BenPIN					Yes			None
83	M83	AllPIN	BenPIN				Yes			None
84	M84	AllPIN	BenPIN				Yes			None
85	M85	AllPIN	BenPIN				Yes			None
86	M86	BenPIN	BenPIN				Yes			None
87	M87	AllPIN	BenPIN				Yes			None
88	M88	BenPIN	AllPIN				Yes			None
89	M89	AllPIN					Yes			None
90	M90		BenPIN				Yes			None
91	M91	AllPIN					Yes			None
92	M92		BenPIN				Yes			None
93	M93	AllPIN					Yes			None
94	M94		BenPIN				Yes			None
95	M95	AllPIN	BenPIN				Yes			None
96	M96		BenPIN				Yes			None
97	M97		BenPIN				Yes			None

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
1	N1	0	0	-1.5	0	
2	N2	20.67	0	-1.5	0	
3	N3	41.33	0	-1.5	0	
4	N4	74.33	0	-1.5	0	
5	N5	107.33	0	-1.5	0	
6	N6	140.33	0	-1.5	0	
7	N7	173.33	0	-1.5	0	
8	N8	0	29	-1.5	0	
9	N9	20.67	29	-1.5	0	
10	N10	41.33	29	-1.5	0	
11	N11	74.33	29	-1.5	0	
12	N12	107.33	29	-1.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
13	N13	140.33	29	-1.5	0	
14	N14	173.33	29	-1.5	0	
15	N15	0	59	-1.5	0	
16	N16	20.67	59	-1.5	0	
17	N17	41.33	59	-1.5	0	
18	N18	74.33	59	-1.5	0	
19	N19	107.33	59	-1.5	0	
20	N20	140.33	59	-1.5	0	
21	N21	173.33	59	-1.5	0	
22	N22	0	88	-1.5	0	
23	N23	20.67	88	-1.5	0	
24	N24	41.33	88	-1.5	0	
25	N25	74.33	88	-1.5	0	
26	N26	107.33	88	-1.5	0	
27	N27	140.33	88	-1.5	0	
28	N28	173.33	88	-1.5	0	
29	N29	0	0	15	0	
30	N30	20.67	0	15	0	
31	N31	41.33	0	15	0	
32	N32	74.33	0	15	0	
33	N33	107.33	0	15	0	
34	N34	140.33	0	15	0	
35	N35	173.33	0	15	0	
36	N36	0	88	15	0	
37	N37	20.67	88	15	0	
38	N38	41.33	88	15	0	
39	N39	74.33	88	15	0	
40	N40	107.33	88	15	0	
41	N41	140.33	88	15	0	
42	N42	173.33	88	15	0	
43	N43	0	0	13.5	0	
44	N44	0	29	13.5	0	
45	N45	0	59	13.5	0	
46	N46	0	88	13.5	0	
47	N47	173.33	0	13.5	0	
48	N48	173.33	29	13.5	0	
49	N49	173.33	59	13.5	0	
50	N50	173.33	88	13.5	0	
51	N51	0	29	27	0	
52	N52	20.67	29	27	0	
53	N53	41.33	29	27	0	
54	N54	74.33	29	27	0	
55	N55	107.33	29	27	0	
56	N56	140.33	29	27	0	
57	N57	173.33	29	27	0	
58	N58	0	59	27	0	
59	N59	20.67	59	27	0	
60	N60	41.33	59	27	0	
61	N61	74.33	59	27	0	
62	N62	107.33	59	27	0	
63	N63	140.33	59	27	0	
64	N64	173.33	59	27	0	
65	N65	41.33	29	15	0	
66	N66	74.33	29	15	0	
67	N67	74.33	59	15	0	
68	N68	107.33	59	15	0	
69	N69	140.33	59	15	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diaphragm
70	N70	31	0	15	0	
71	N71	57.84	29	15	0	
72	N72	123.84	59	15	0	
73	N1000	86.67	44	27	0	

Hot Rolled Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp b...	Kyy	Kzz	Cm-yy	Cm-zz	Cb	y sway	z sway	Function
1	M1	HSS6X6...	16.5												Lateral
2	M2	HSS6X6...	16.5												Lateral
3	M3	HSS6X6...	16.5												Lateral
4	M4	HSS6X6...	16.5												Lateral
5	M5	HSS6X6...	16.5												Lateral
6	M6	HSS6X6...	16.5												Lateral
7	M7	HSS6X6...	16.5												Lateral
8	M8	HSS6X6...	28.5												Lateral
9	M9	HSS6X6...	28.5												Lateral
10	M10	HSS6X6...	16.5												Lateral
11	M11	HSS6X6...	28.5												Lateral
12	M12	HSS6X6...	28.5												Lateral
13	M13	HSS6X6...	28.5												Lateral
14	M14	HSS8X8...	28.5												Lateral
15	M15	HSS8X8...	28.5												Lateral
16	M16	HSS8X8...	28.5												Lateral
17	M17	HSS6X6...	16.5												Lateral
18	M18	HSS6X6...	16.5												Lateral
19	M19	HSS6X6...	16.5												Lateral
20	M20	HSS6X6...	16.5												Lateral
21	M21	HSS6X6...	16.5												Lateral
22	M22	HSS6X6...	28.5												Lateral
23	M23	HSS6X6...	16.5												Lateral
24	M24	HSS6X6...	28.5												Lateral
25	M25	HSS6X6...	28.5												Lateral
26	M26	HSS6X6...	28.5												Lateral
27	M27	HSS6X6...	28.5												Lateral
28	M28	HSS6X6...	28.5												Lateral
29	M29	W18X50	29												Lateral
30	M30	W18X50	30												Lateral
31	M31	W18X50	29												Lateral
32	M32	W18X50	29												Lateral
33	M33	W14X22	30												Lateral
34	M34	W14X22	29												Lateral
35	M35	W24X68	20.67												Lateral
36	M36	W24X68	10.33												Lateral
37	M37	W24X68	33												Lateral
38	M38	W24X68	33												Lateral
39	M39	W24X68	33												Lateral
40	M40	W24X68	33												Lateral
41	M41	W24X68	31.385												Lateral
42	M42	W24X94	33												Lateral
43	M43	W24X94	33												Lateral
44	M44	W24X94	33												Lateral
45	M45	W24X94	33												Lateral
46	M46	W21X44	20.66												Lateral
47	M47	W21X44	20.67												Lateral
48	M48	W24X68	31.385												Lateral
49	M49	W14X22	31.385												Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp b...	Kyy	Kzz	Cm-yy	Cm-zz	Cb	y sway	z sway	Function
50	M50	W14X22	31.385												Lateral
51	M51	W14X22	31.385												Lateral
52	M52	W14X22	31.385												Lateral
53	M53	W14X22	31.385												Lateral
54	M54	W24X68	30												Lateral
55	M55	W24X94	33												Lateral
56	M56	W24X94	33												Lateral
57	M57	W24X94	33												Lateral
58	M58	W24X94	33												Lateral
59	M59	W21X44	20.66												Lateral
60	M60	W21X44	20.67												Lateral
61	M61	W24X68	30												Lateral
62	M62	W24X68	31.385												Lateral
63	M63	W24X68	20.67												Lateral
64	M64	W24X68	20.66												Lateral
65	M65	W24X68	33												Lateral
66	M66	W24X68	33												Lateral
67	M67	W24X68	33												Lateral
68	M68	W24X68	33												Lateral
69	M69	W24X68	31.385												Lateral
70	M70	W14X22	31.385												Lateral
71	M71	W14X22	31.385												Lateral
72	M72	W14X22	31.385												Lateral
73	M73	W14X22	31.385												Lateral
74	M74	W14X22	31.385												Lateral
75	M75	W14X22	30												Lateral
76	M76	W14X22	30												Lateral
77	M77	W14X22	30												Lateral
78	M78	W14X22	30												Lateral
79	M79	W14X22	30												Lateral
80	M80	W21X50	33												Lateral
81	M81	W18X35	30												Lateral
82	M82	W18X35	16.51												Lateral
83	M83	HSS6X6...	32.65												Lateral
84	M84	HSS6X6...	32.65												Lateral
85	M85	HSS8X8...	34.238												Lateral
86	M86	HSS8X8...	32.311												Lateral
87	M87	HSS4X4...	19.467												Lateral
88	M88	HSS4X4...	19.467												Lateral
89	M89	HSS6X6...	23.342												Lateral
90	M90	HSS6X6...	20.394												Lateral
91	M91	HSS6X6...	23.327												Lateral
92	M92	HSS6X6...	20.41												Lateral
93	M93	HSS6X6...	23.342												Lateral
94	M94	HSS6X6...	20.394												Lateral
95	M95	HSS6X6...	36.895												Lateral
96	M96	W24X68	10.33												Lateral
97	M97	W18X35	16.49												Lateral

Joint Loads and Enforced Displacements (BLC 6 : SEISMIC TRANS +)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N54	L	Y	63.68
2	N45	L	Y	27.3
3	N47	L	Y	36.37

Joint Loads and Enforced Displacements (BLC 7 : SEISMIC LONG +)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N53	L	X	42.69
2	N39	L	X	20.98
3	N62	L	X	42.69
4	N30	L	X	20.98

Joint Loads and Enforced Displacements (BLC 8 : SEISMIC TRANS -)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N61	L	Y	-63.68
2	N46	L	Y	-27.3
3	N47	L	Y	-36.37

Joint Loads and Enforced Displacements (BLC 9 : SEISMIC LONG -)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N54	L	X	-42.69
2	N40	L	X	-20.98
3	N63	L	X	-42.69
4	N31	L	X	-20.98

Member Distributed Loads (BLC 2 : ROOF LIVE)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M35	Z	-.29	-.29	0	0
2	M36	Z	-.29	-.29	0	0
3	M37	Z	-.29	-.29	0	0
4	M38	Z	-.29	-.29	0	0
5	M39	Z	-.29	-.29	0	0
6	M40	Z	-.29	-.29	0	0
7	M41	Z	-.29	-.29	0	0
8	M48	Z	-.29	-.29	0	0
9	M61	Z	-.29	-.29	0	0
10	M62	Z	-.29	-.29	0	0
11	M63	Z	-.29	-.29	0	0
12	M64	Z	-.29	-.29	0	0
13	M65	Z	-.29	-.29	0	0
14	M66	Z	-.29	-.29	0	0
15	M67	Z	-.29	-.29	0	0
16	M68	Z	-.29	-.29	0	0
17	M69	Z	-.29	-.29	0	0
18	M54	Z	-.29	-.29	0	0
19	M42	Z	-.59	-.59	0	0
20	M43	Z	-.59	-.59	0	0
21	M44	Z	-.59	-.59	0	0
22	M45	Z	-.59	-.59	0	0
23	M46	Z	-.59	-.59	0	0
24	M47	Z	-.59	-.59	0	0
25	M55	Z	-.59	-.59	0	0
26	M56	Z	-.59	-.59	0	0
27	M57	Z	-.59	-.59	0	0
28	M58	Z	-.59	-.59	0	0
29	M59	Z	-.59	-.59	0	0
30	M60	Z	-.59	-.59	0	0
31	M96	Z	-.29	-.29	0	0

Member Distributed Loads (BLC 3 : SUPERIMPOSED DEAD)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M35	Z	-.345	-.345	0	0

Member Distributed Loads (BLC 3 : SUPERIMPOSED DEAD) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
2	M36	Z	-.345	-.345	0	0
3	M37	Z	-.345	-.345	0	0
4	M38	Z	-.345	-.345	0	0
5	M39	Z	-.345	-.345	0	0
6	M40	Z	-.345	-.345	0	0
7	M41	Z	-.345	-.345	0	0
8	M48	Z	-.345	-.345	0	0
9	M54	Z	-.345	-.345	0	0
10	M61	Z	-.345	-.345	0	0
11	M62	Z	-.345	-.345	0	0
12	M63	Z	-.345	-.345	0	0
13	M64	Z	-.345	-.345	0	0
14	M65	Z	-.345	-.345	0	0
15	M66	Z	-.345	-.345	0	0
16	M67	Z	-.345	-.345	0	0
17	M68	Z	-.345	-.345	0	0
18	M69	Z	-.345	-.345	0	0
19	M42	Z	-.702	-.702	0	0
20	M43	Z	-.702	-.702	0	0
21	M44	Z	-.702	-.702	0	0
22	M45	Z	-.702	-.702	0	0
23	M46	Z	-.702	-.702	0	0
24	M47	Z	-.702	-.702	0	0
25	M55	Z	-.702	-.702	0	0
26	M56	Z	-.702	-.702	0	0
27	M57	Z	-.702	-.702	0	0
28	M58	Z	-.702	-.702	0	0
29	M59	Z	-.702	-.702	0	0
30	M60	Z	-.702	-.702	0	0
31	M96	Z	-.345	-.345	0	0

Member Distributed Loads (BLC 4 : WIND TRANS)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M35	Y	.08	.08	0	0
2	M36	Y	.08	.08	0	0
3	M37	Y	.08	.08	0	0
4	M38	Y	.08	.08	0	0
5	M39	Y	.08	.08	0	0
6	M40	Y	.08	.08	0	0
7	M35	Z	.181	.181	0	0
8	M36	Z	.181	.181	0	0
9	M37	Z	.181	.181	0	0
10	M38	Z	.181	.181	0	0
11	M39	Z	.181	.181	0	0
12	M40	Z	.181	.181	0	0
13	M41	Z	.181	.181	0	0
14	M48	Z	.181	.181	0	0
15	M54	Z	.181	.181	0	0
16	M61	Z	.181	.181	0	0
17	M62	Z	.181	.181	0	0
18	M63	Z	.181	.181	0	0
19	M64	Z	.181	.181	0	0
20	M65	Z	.181	.181	0	0
21	M66	Z	.181	.181	0	0
22	M67	Z	.181	.181	0	0
23	M68	Z	.181	.181	0	0
24	M69	Z	.181	.181	0	0

Member Distributed Loads (BLC 4 : WIND TRANS) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
25	M42	Z	.369	.369	0	0
26	M43	Z	.369	.369	0	0
27	M44	Z	.369	.369	0	0
28	M45	Z	.369	.369	0	0
29	M46	Z	.369	.369	0	0
30	M47	Z	.369	.369	0	0
31	M55	Z	.369	.369	0	0
32	M56	Z	.369	.369	0	0
33	M57	Z	.369	.369	0	0
34	M58	Z	.369	.369	0	0
35	M59	Z	.369	.369	0	0
36	M60	Z	.369	.369	0	0
37	M96	Z	.181	.181	0	0
38	M96	Y	.08	.08	0	0

Member Distributed Loads (BLC 5 : WIND LONG)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M48	X	.1	.1	0	0
2	M61	X	.1	.1	0	0
3	M62	X	.1	.1	0	0
4	M35	Z	.181	.181	0	0
5	M36	Z	.181	.181	0	0
6	M37	Z	.181	.181	0	0
7	M38	Z	.181	.181	0	0
8	M39	Z	.181	.181	0	0
9	M40	Z	.181	.181	0	0
10	M41	Z	.181	.181	0	0
11	M48	Z	.181	.181	0	0
12	M54	Z	.181	.181	0	0
13	M61	Z	.181	.181	0	0
14	M62	Z	.181	.181	0	0
15	M63	Z	.181	.181	0	0
16	M64	Z	.181	.181	0	0
17	M65	Z	.181	.181	0	0
18	M66	Z	.181	.181	0	0
19	M67	Z	.181	.181	0	0
20	M68	Z	.181	.181	0	0
21	M69	Z	.181	.181	0	0
22	M42	Z	.369	.369	0	0
23	M43	Z	.369	.369	0	0
24	M44	Z	.369	.369	0	0
25	M45	Z	.369	.369	0	0
26	M46	Z	.369	.369	0	0
27	M47	Z	.369	.369	0	0
28	M55	Z	.369	.369	0	0
29	M56	Z	.369	.369	0	0
30	M57	Z	.369	.369	0	0
31	M58	Z	.369	.369	0	0
32	M59	Z	.369	.369	0	0
33	M60	Z	.369	.369	0	0
34	M96	Z	.181	.181	0	0

Basic Load Cases

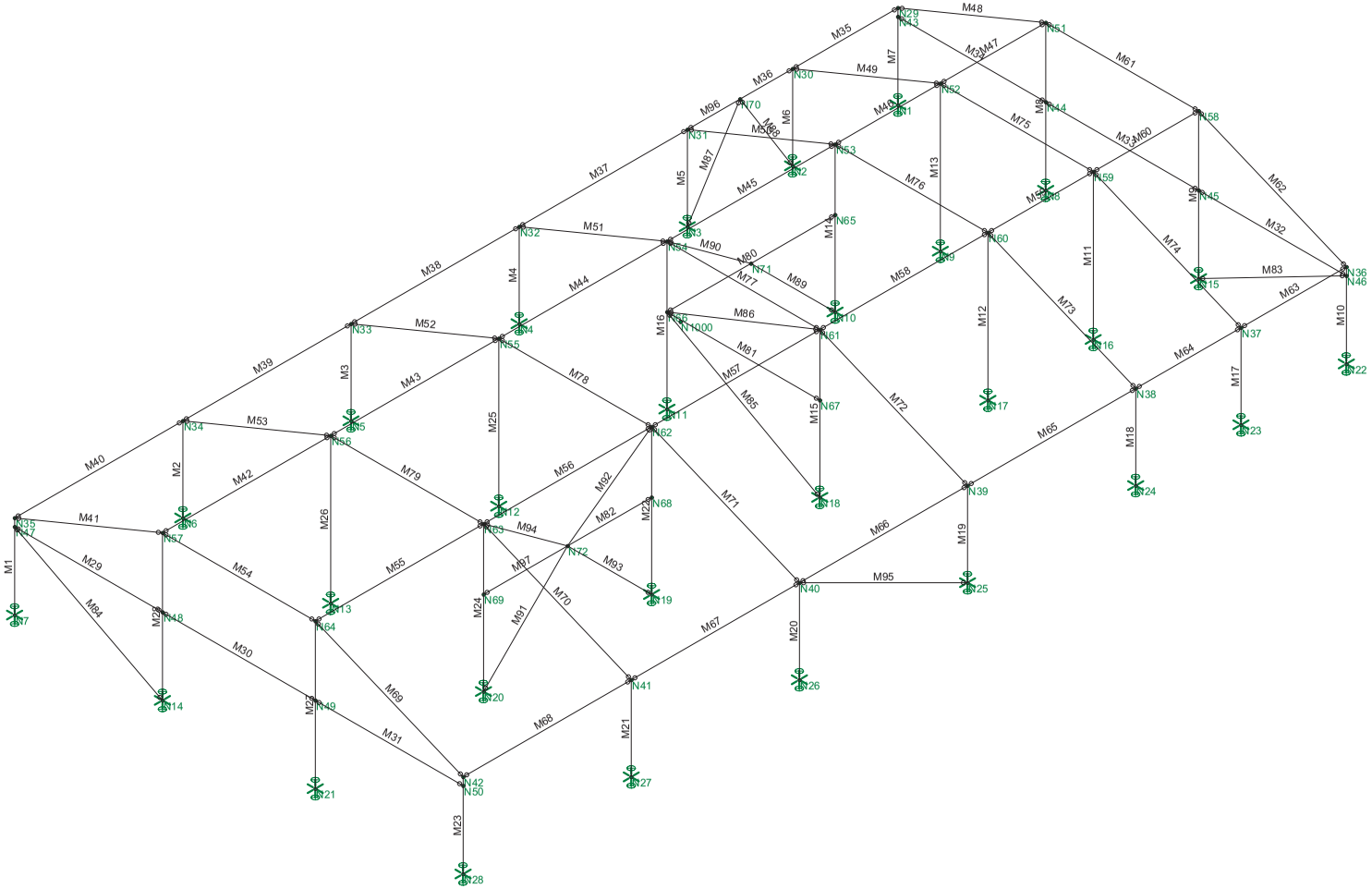
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	SELF WEIGHT	DL			-1					
2	ROOF LIVE	RLL						31		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
3	SUPERIMPOSED D...	DL						31		
4	WIND TRANS	WL						38		
5	WIND LONG	WL						34		
6	SEISMIC TRANS +	EL				3				
7	SEISMIC LONG +	EL				4				
8	SEISMIC TRANS -	EL				3				
9	SEISMIC LONG -	EL				4				

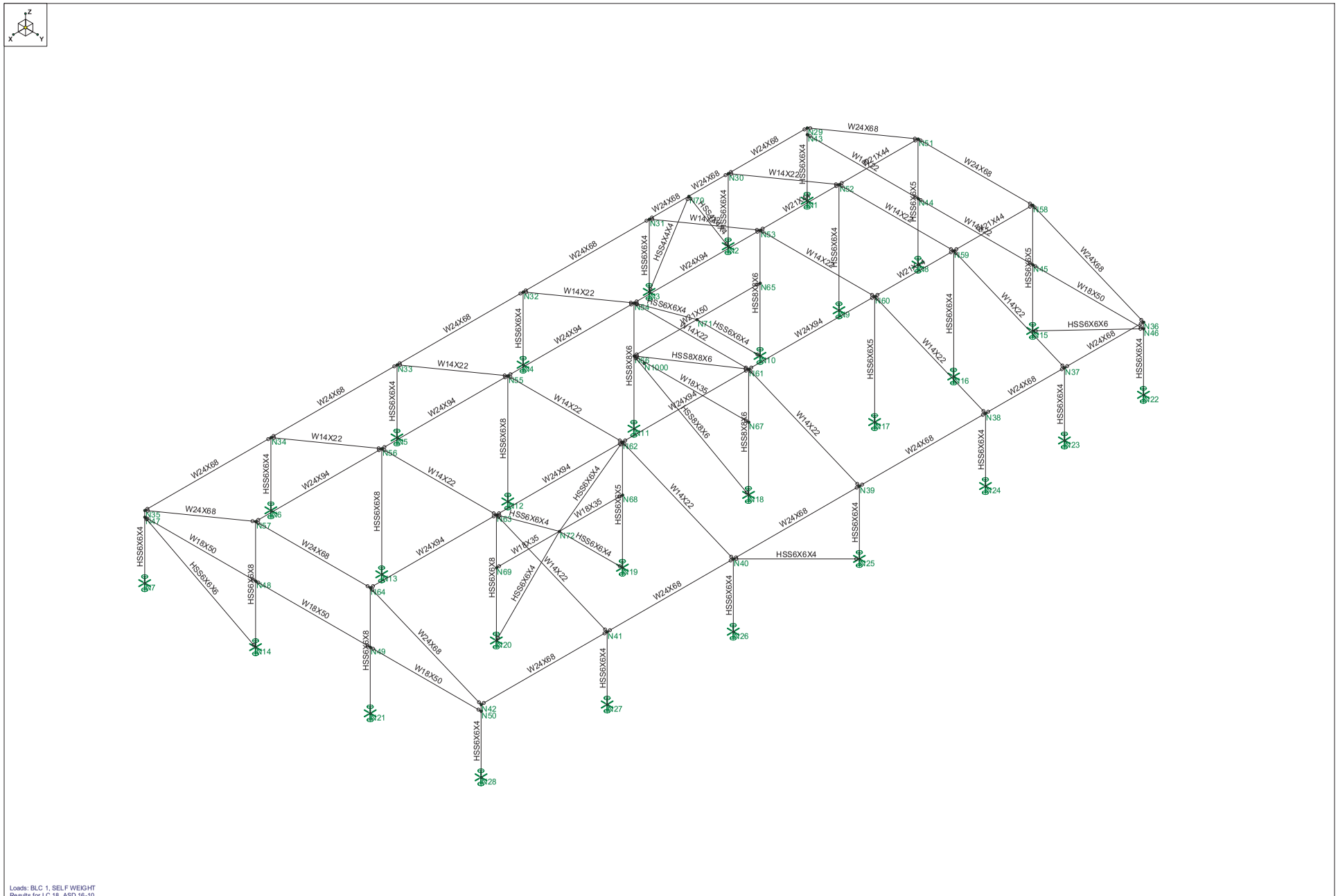
Load Combinations

	Description	Sol...	PD...	SR...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	LRFD 16-1		Y		DL	1.4														
2	LRFD 16-2		Y		DL	1.2	RLL	.5												
3	LRFD 16-3a		Y		DL	1.2	RLL	1.6												
4	LRFD 16-3b.1		Y		DL	1.2	RLL	1.6	4	.4										
5	LRFD 16-3b.2		Y		DL	1.2	RLL	1.6	5	.4										
6	LRFD 16-4.1		Y		DL	1.2	RLL	.5	4	.4										
7	LRFD 16-4.2		Y		DL	1.2	RLL	.5	5	.4										
8	LRFD 16-5.1		Y		DL	1.2	RLL	.2	6	1										
9	LRFD 16-5.2		Y		DL	1.2	RLL	.2	7	1										
10	LRFD 16-5.3		Y		DL	1.2	RLL	.2	8	1										
11	LRFD 16-5.4		Y		DL	1.2	RLL	.2	9	1										
12	LRFD 16-6.1		Y		DL	.9	4	1.6												
13	LRFD 16-6.2		Y		DL	.9	5	1.6												
14	LRFD 16-7.1		Y		DL	.9	6	1												
15	LRFD 16-7.2		Y		DL	.9	7	1												
16	LRFD 16-7.3		Y		DL	.9	8	1												
17	LRFD 16-7.4		Y		DL	.9	9	1												
18	ASD 16-10	Yes			DL	1	RLL	1												
19	ASD 16-12a.1	Yes			DL	1	4	1												
20	ASD 16-12a.2	Yes			DL	1	5	1												
21	ASD 16-12b.1	Yes			DL	1	6	.7												
22	ASD 16-12b.2	Yes			DL	1	7	.7												
23	ASD 16-12b.3	Yes			DL	1	8	.7												
24	ASD 16-12b.4	Yes			DL	1	9	.7												
25	ASD 16-13a.1	Yes			DL	1	RLL	.75	6	.525										
26	ASD 16-13a.2	Yes			DL	1	RLL	.75	7	.525										
27	ASD 16-13a.3	Yes			DL	1	RLL	.75	8	.525										
28	ASD 16-13a.4	Yes			DL	1	RLL	.75	9	.525										
29	ASD 16-13b.1	Yes			DL	1	RLL	.75	4	.75										
30	ASD 16-13b.2	Yes			DL	1	RLL	.75	5	.75										
31	ASD 16-14.1	Yes			DL	.6	4	1												
32	ASD 16-14.2	Yes			DL	.6	5	1												
33	ASD 16-15.1	Yes			DL	.6	6	.7												
34	ASD 16-15.2	Yes			DL	.6	7	.7												
35	ASD 16-15.3	Yes			DL	.6	8	.7												
36	ASD 16-15.4	Yes			DL	.6	9	.7												
37	SelfWeight		Y		1	1														
38	Roof Live		Y		2	1														
39	Superimposed D...		Y		3	1														
40	Wind Trans		Y		4	1														
41	Wind Long		Y		5	1														
42	Seismic Trans +		Y		6	1														
43	Seismic Long +		Y		7	1														
44	Seismic Trans -		Y		8	1														
45	Seismic Long -		Y		9	1														



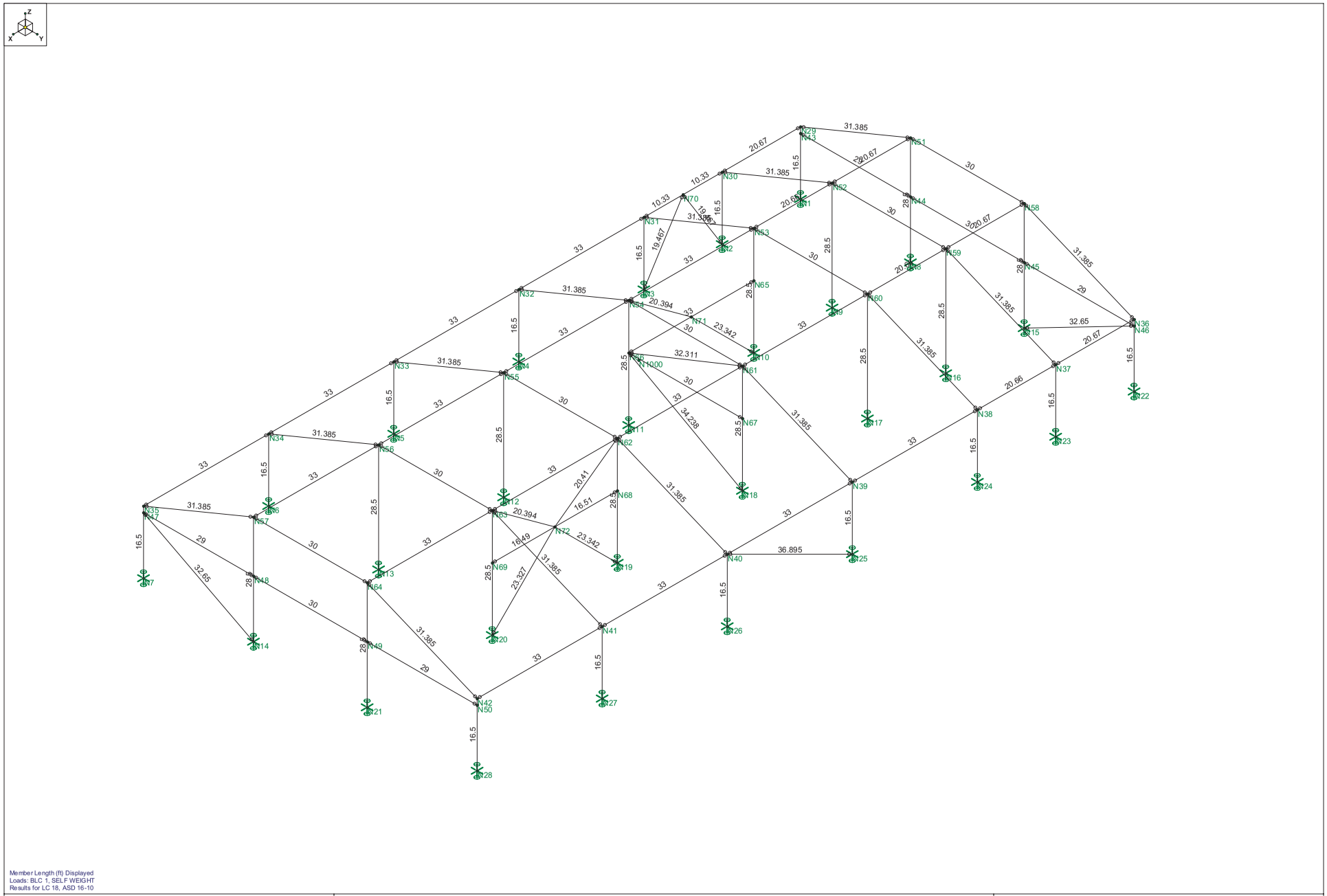
Loads: BLC 1, SELF WEIGHT
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 2
MTS		May 25, 2012 at 10:51 AM
173133A		Battalion Headquarters-Flexible.r3d



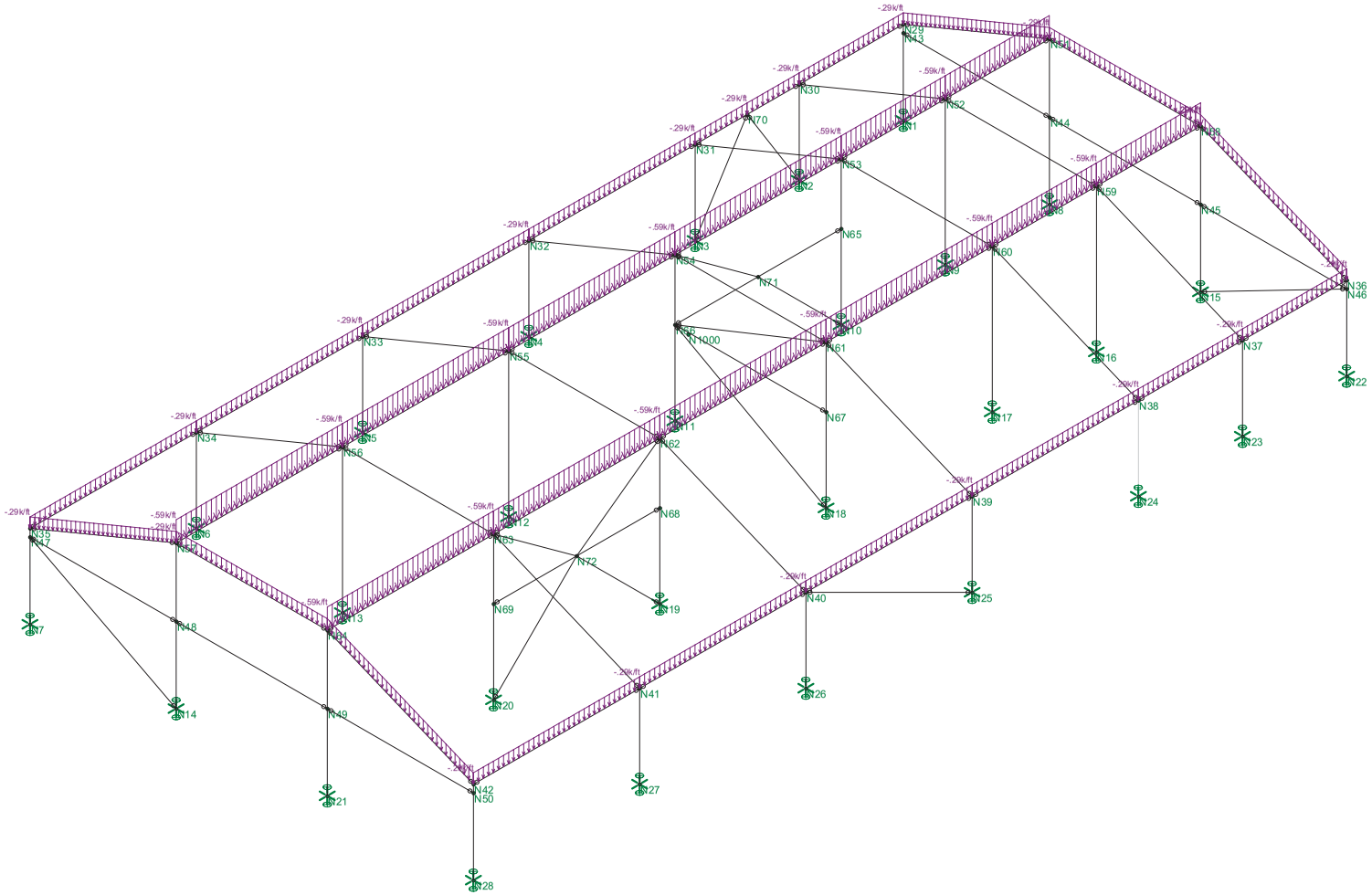
Loads: BLC 1, SELF WEIGHT
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 3
MTS		May 25, 2012 at 10:54 AM
173133A		Battalion Headquarters-Flexible.r3d



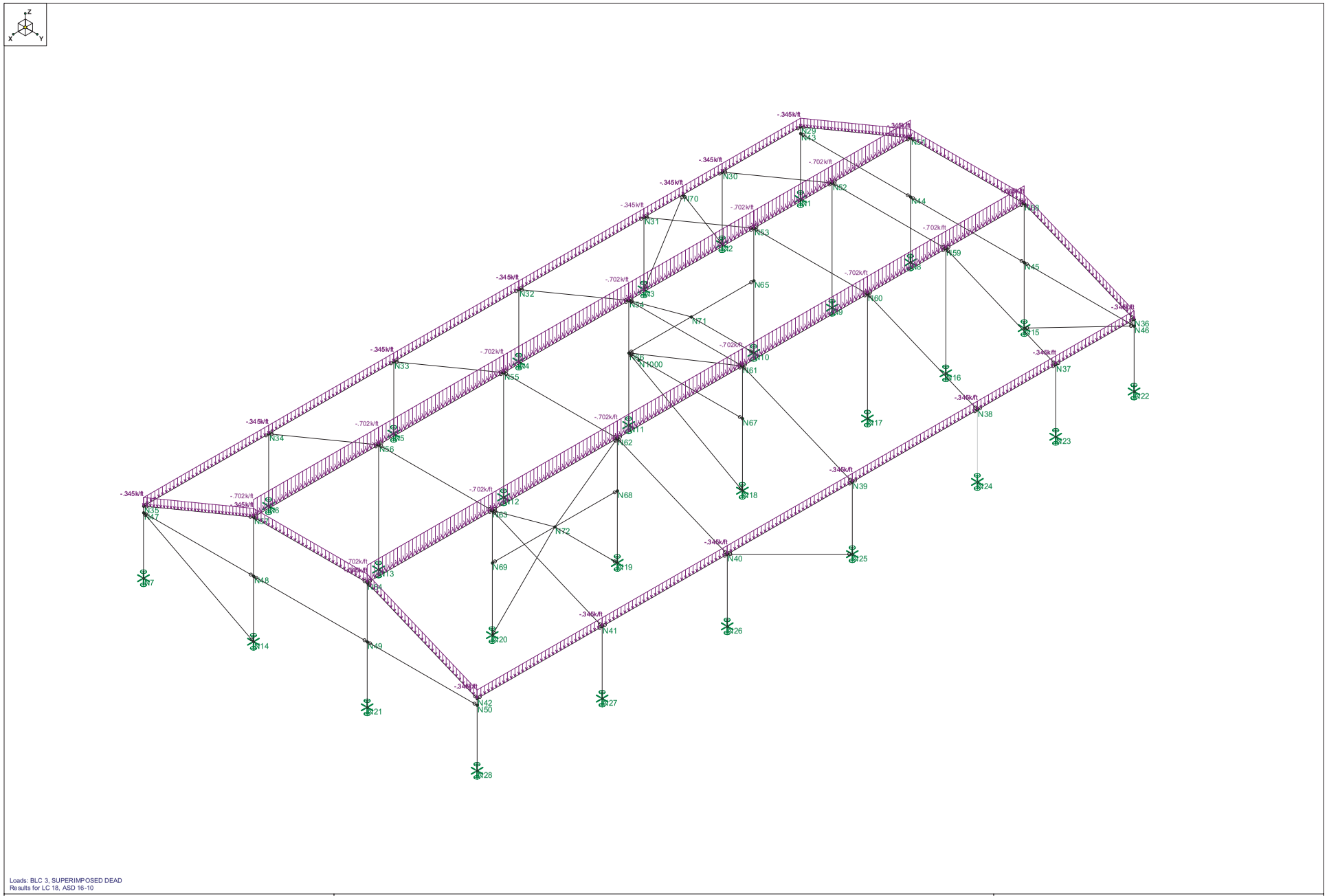
Member Length (ft) Displayed
Loads: BLC 1, SELF WEIGHT
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 4
MTS		May 25, 2012 at 10:55 AM
173133A		Battalion Headquarters-Flexible.r3d



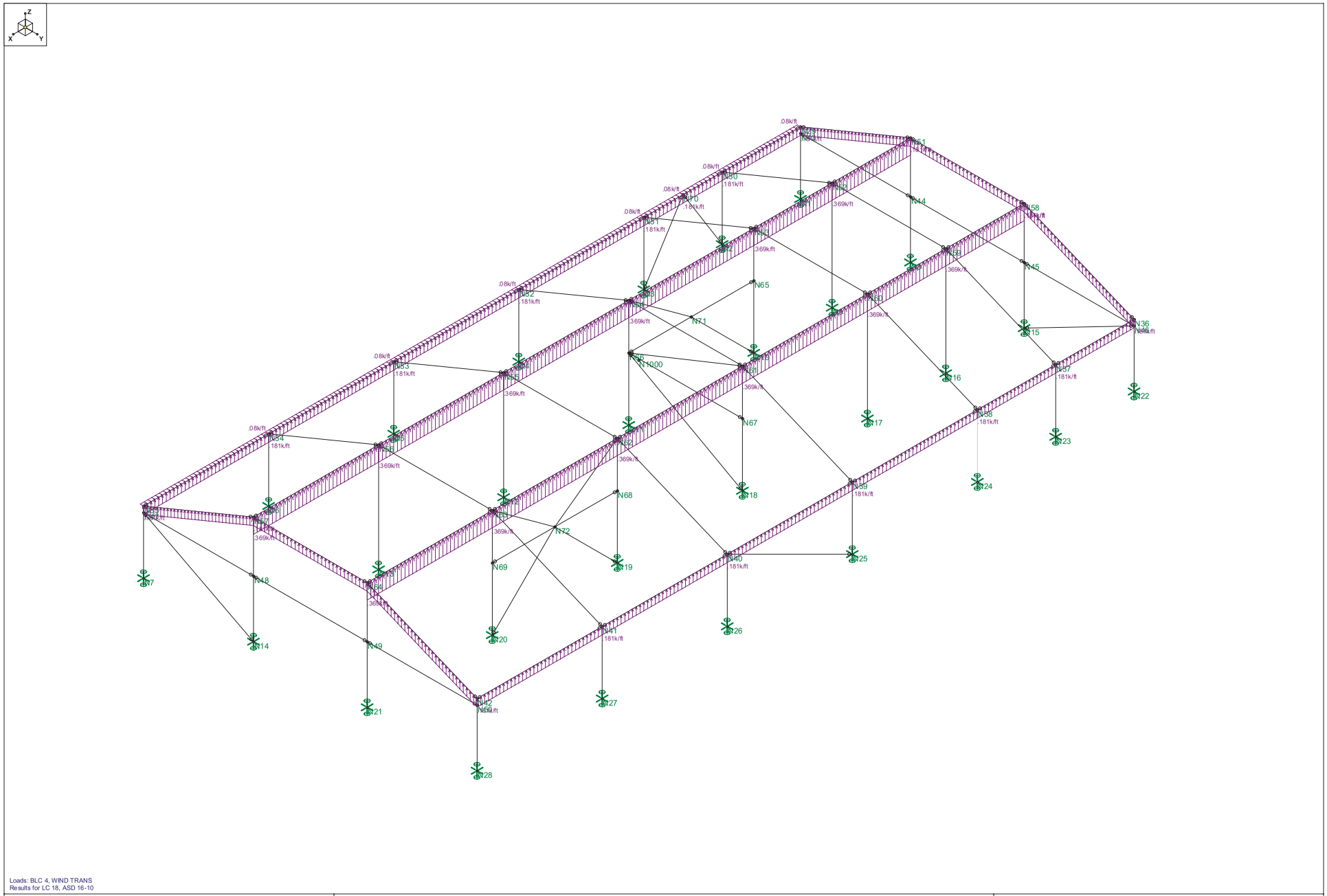
Loads: BLC 2, ROOF LIVE
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 5
MTS		May 25, 2012 at 10:55 AM
173133A		Battalion Headquarters-Flexible.r3d



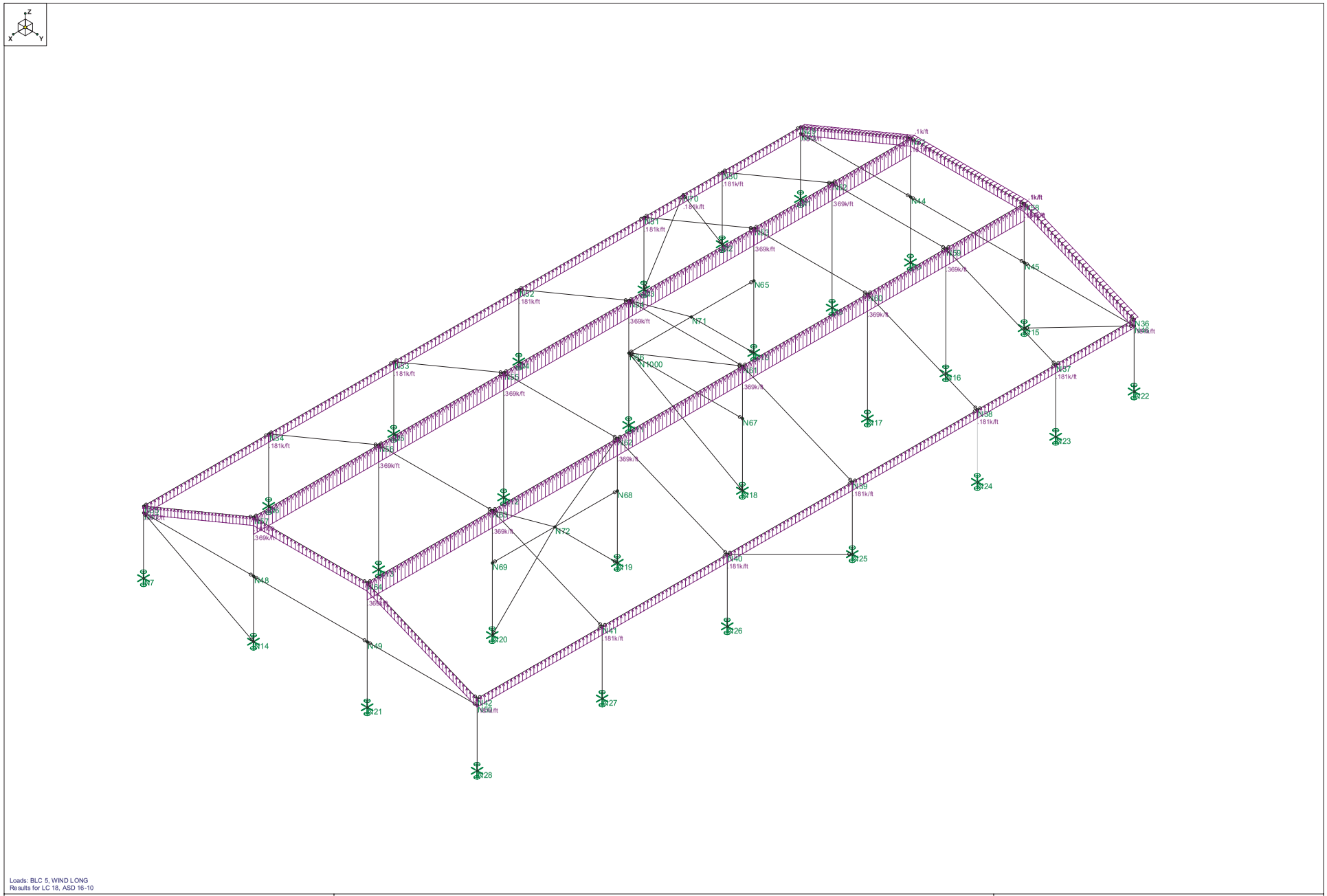
Loads: BLC 3, SUPERIMPOSED DEAD
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 6
MTS		May 25, 2012 at 10:56 AM
173133A		Battalion Headquarters-Flexible.r3d



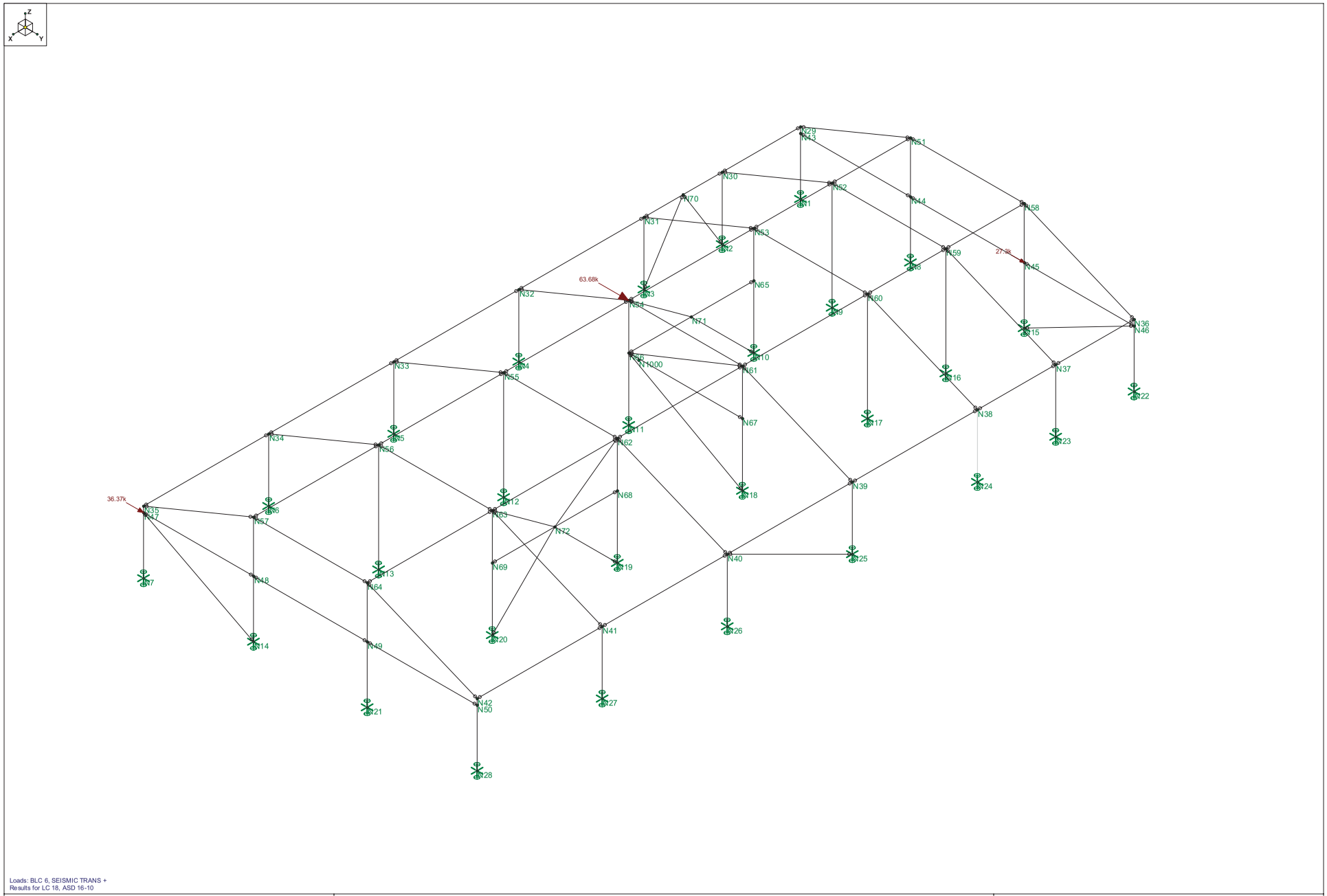
Loads: BLC 4, WIND TRANS
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 7
MTS		May 25, 2012 at 10:56 AM
173133A		Battalion Headquarters-Flexible.r3d



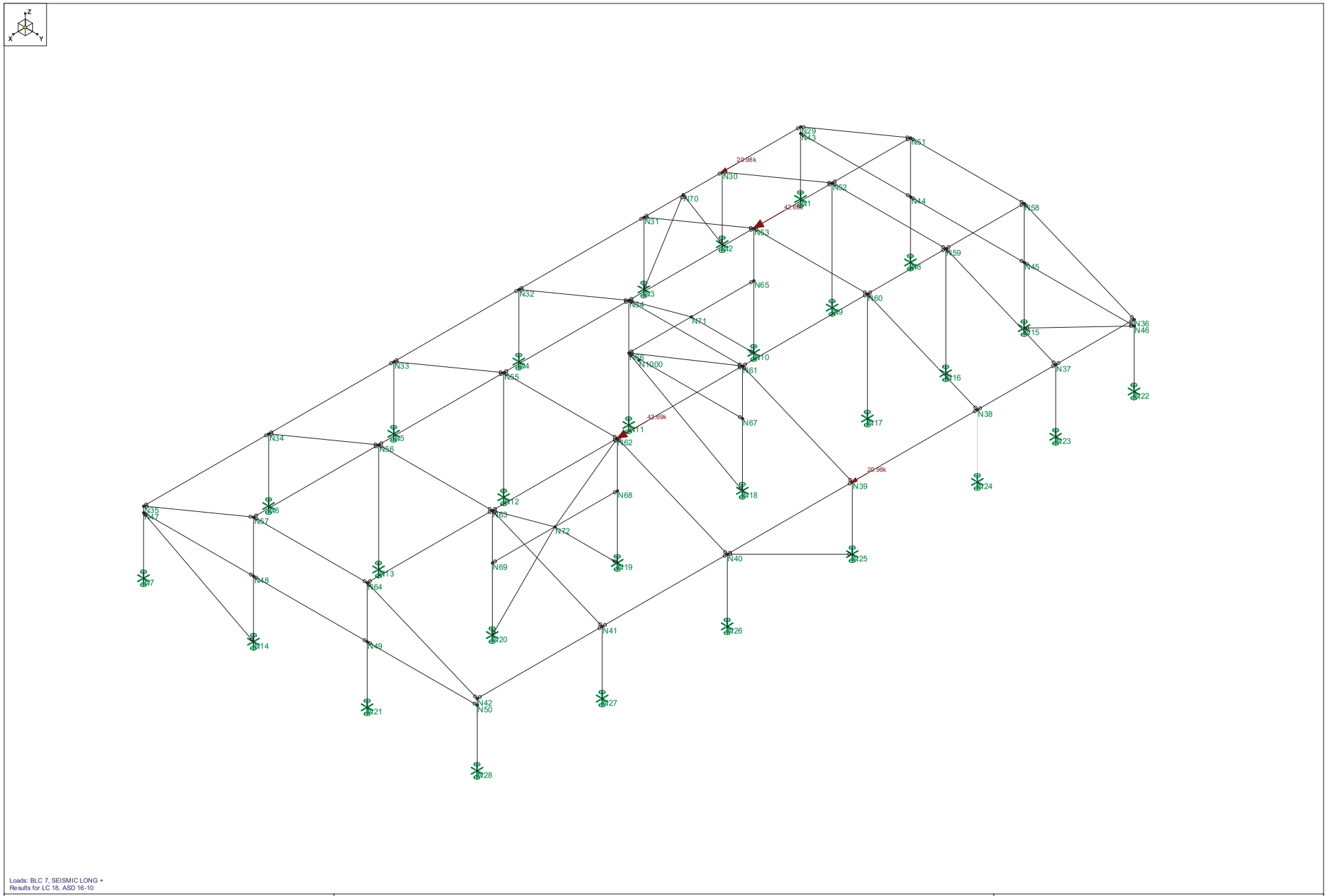
Loads: BLC 5, WIND LONG
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 8
MTS		May 25, 2012 at 10:57 AM
173133A		Battalion Headquarters-Flexible.r3d



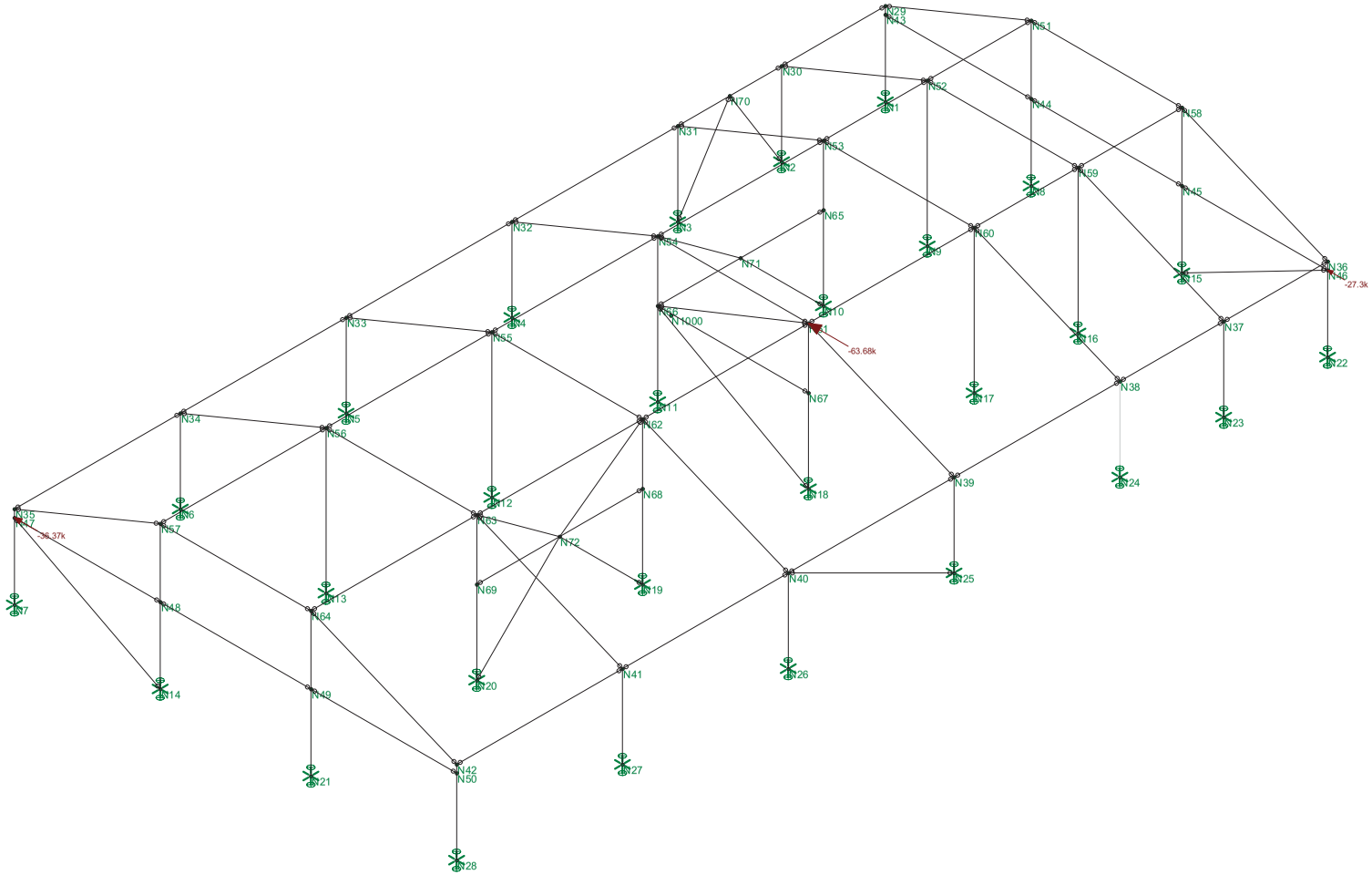
Loads: BLC 6, SEISMIC TRANS +
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 9
MTS		May 25, 2012 at 10:57 AM
173133A		Battalion Headquarters-Flexible.r3d



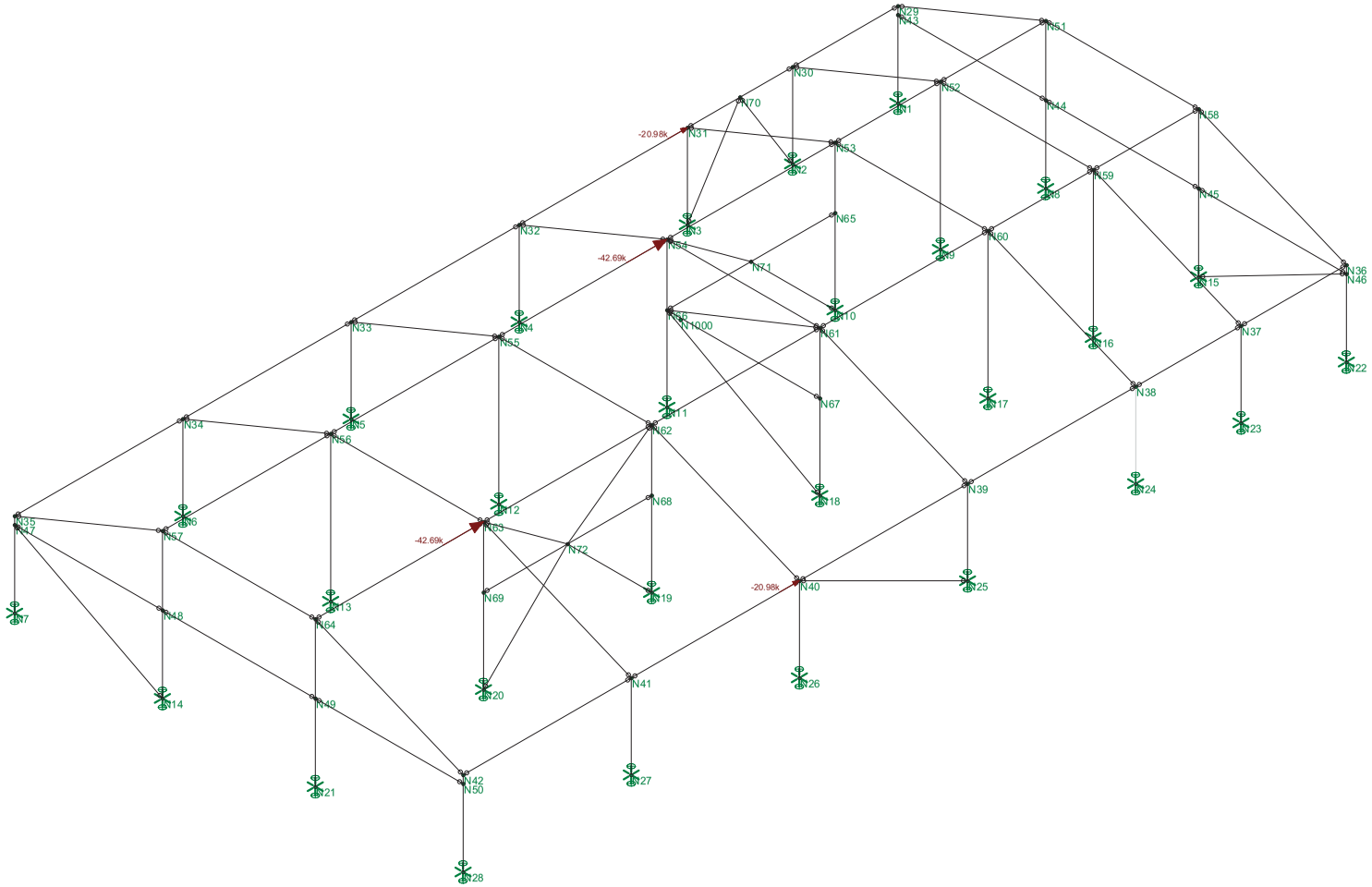
Loads: BLC 7, SEISMIC LONG +
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 10
MTS		May 25, 2012 at 10:57 AM
173133A		Battalion Headquarters-Flexible.r3d



Loads: BLC 8, SEISMIC TRANS -
Results for LC 18, ASD 16-10

Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 11
MTS		May 25, 2012 at 10:57 AM
173133A		Battalion Headquarters-Flexible.r3d



Loads: BLC 9, SEISMIC LONG -
Results for LC 18, ASD 16-10

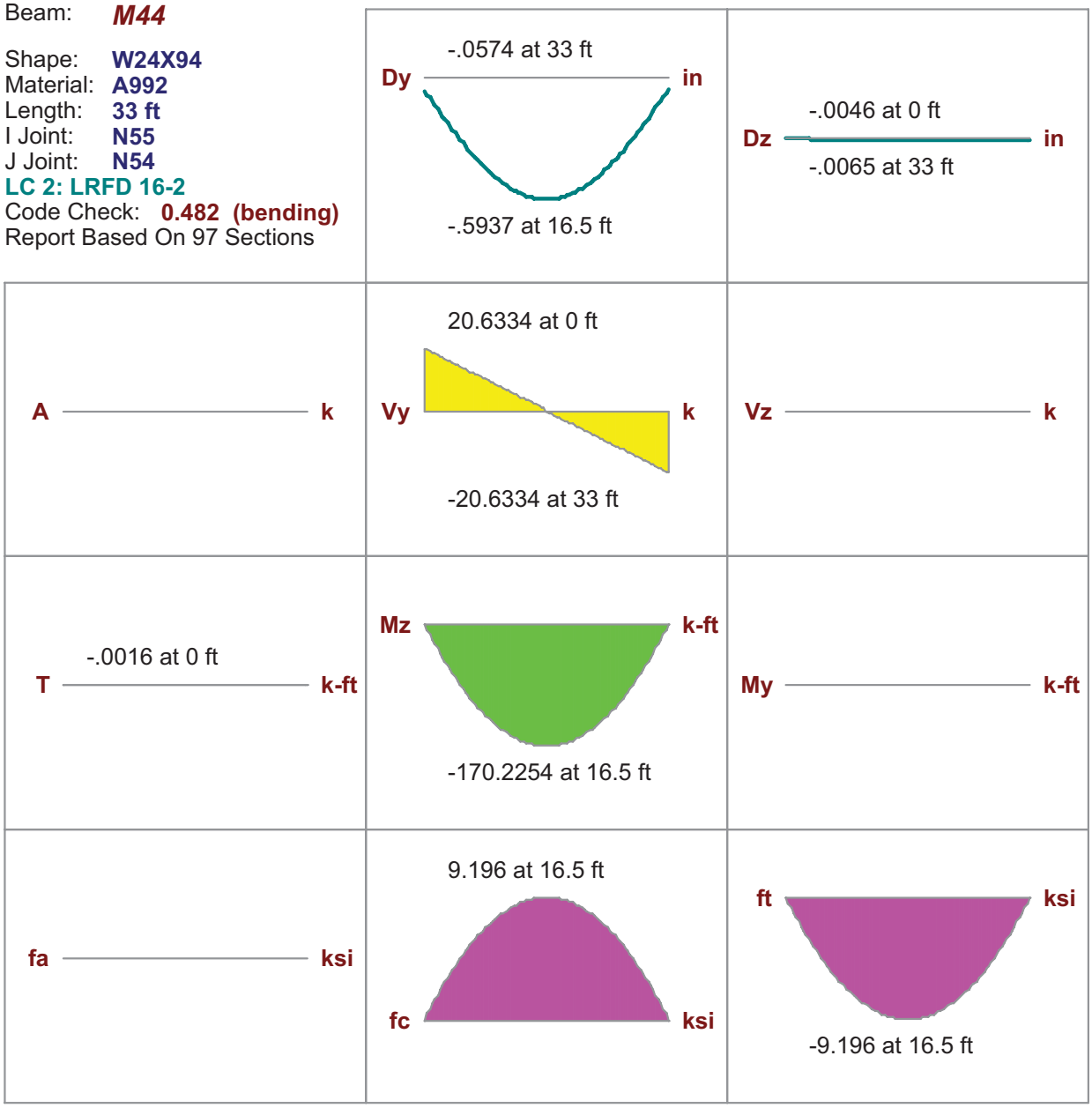
Parsons Brinckerhoff	CIDC Battalion Headquarters	SK - 12
MTS		May 25, 2012 at 10:58 AM
173133A		Battalion Headquarters-Flexible.r3d

Drift and Member Size Check

CIC – Battalion Headquarters; Ft. Lewis, Washington

Beam: ***M44***

Shape: **W24X94**
Material: **A992**
Length: **33 ft**
I Joint: **N55**
J Joint: **N54**
LC 2: LRFD 16-2
Code Check: **0.482 (bending)**
Report Based On 97 Sections



AISC 13th(360-05): LRFD Code Check

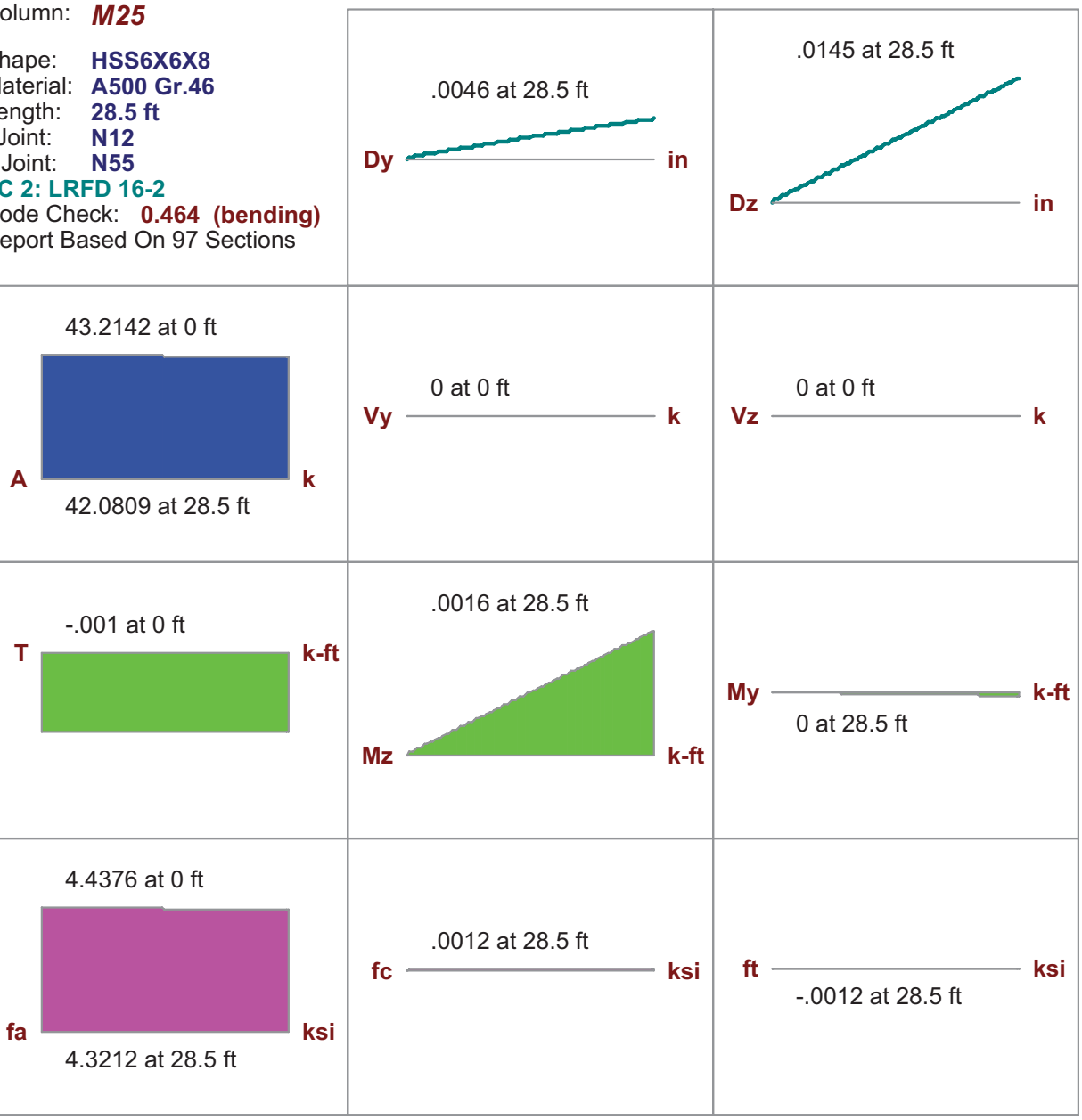
Direct Analysis Method

Max Bending Check	**0.482**	Max Shear Check	**0.055 (y)**	
Location	**16.5 ft**	Location	**0 ft**	
Equation	**H1-1b**	Max Defl Ratio	**L/743**	
Bending Flange	**Compact**	Compression Flange	**Non-Slender**	**Qs=1**
Bending Web	**Compact**	Compression Web	**Slender**	**Qa=1**

			y-y	z-z
Fy	**50 ksi**			
phi*Pnc	**157.0276 k**	Lb	**33 ft**	**33 ft**
phi*Pnt	**1246.5 k**	KL/r	**199.6282**	**40.11**
phi*Mny	**140.625 k-ft**	Sway	**No**	**No**
phi*Mnz	**352.8566 k-ft**			
phi*Vny	**375.5895 k**	L Comp Flange	**33 ft**	
phi*Vnz	**428.3212 k**	Torque Length	**NC**	
Cb	**1.1364**	Tau_b	**1**	

Column: ***M25***

Shape: **HSS6X6X8**
Material: **A500 Gr.46**
Length: **28.5 ft**
I Joint: **N12**
J Joint: **N55**
LC 2: LRFD 16-2
Code Check: **0.464 (bending)**
Report Based On 97 Sections



AISC 13th(360-05): LRFD Code Check

Direct Analysis Method

Max Bending Check	**0.464**	Max Shear Check	**0.000 (y)**
Location	**0 ft**	Location	**0 ft**
Equation	**H1-1a**	Max Defl Ratio	**L/10000**
Bending Flange	**Compact**	Compression Flange	**Non-Slender**
Bending Web	**Compact**	Compression Web	**Non-Slender**

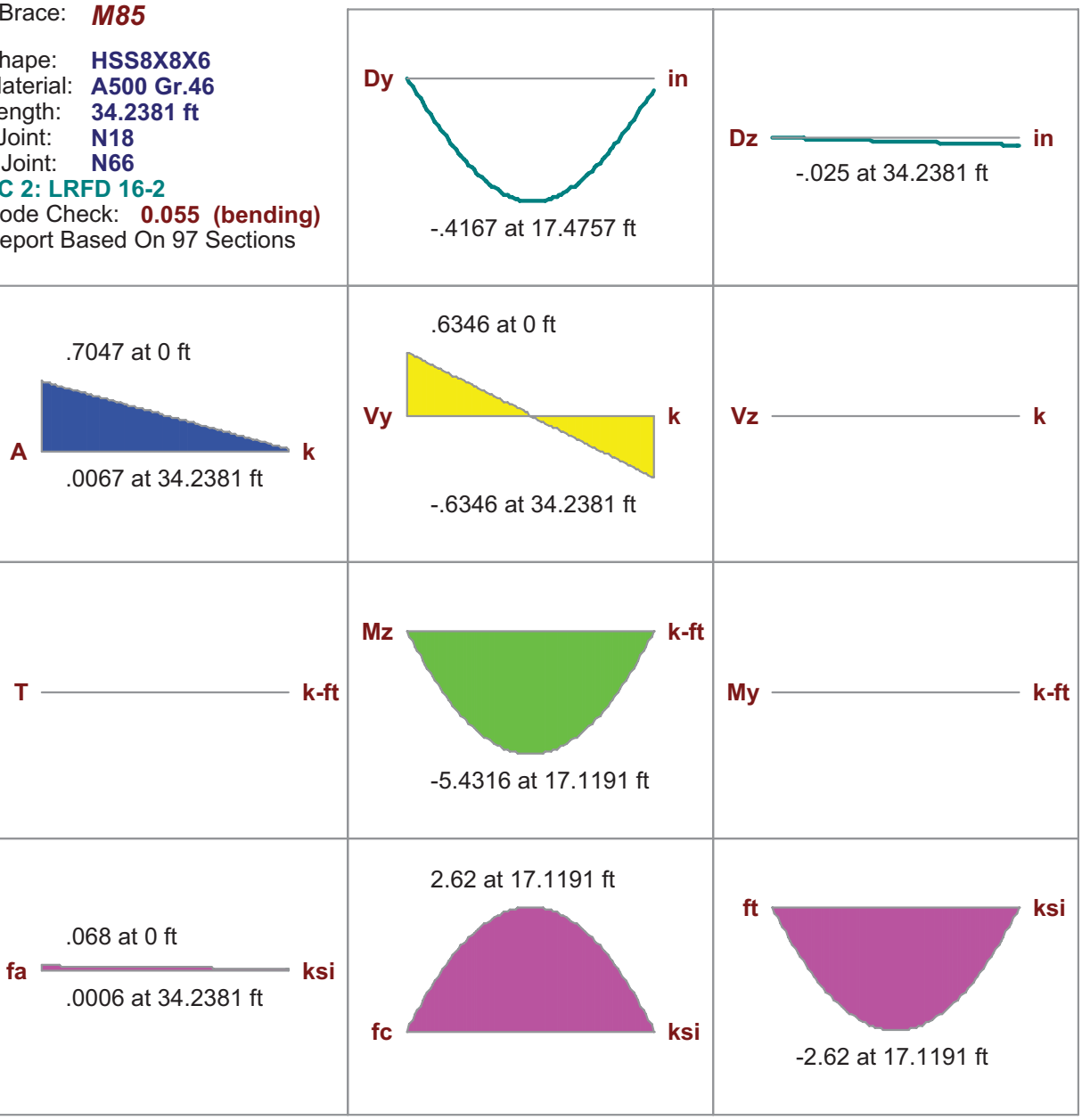
Fy	**46 ksi**
phi*Pnc	**93.1459 k**
phi*Pnt	**403.1645 k**
phi*Mny	**68.3003 k-ft**
phi*Mnz	**68.3003 k-ft**
phi*Vny	**106.381 k**
phi*Vnz	**106.381 k**
phi*Tn	**58.1738 k-ft**
Cb	**1.6667**

	y-y	z-z
Lb	**28.5 ft**	**28.5 ft**
KL/r	**153.6841**	**153.6841**
Sway	**No**	**No**

L Comp Flange	**28.5 ft**
Torque Length	**NC**
Tau_b	**1**

VBrace: ***M85***

Shape: **HSS8X8X6**
Material: **A500 Gr.46**
Length: **34.2381 ft**
I Joint: **N18**
J Joint: **N66**
LC 2: LRFD 16-2
Code Check: **0.055 (bending)**
Report Based On 97 Sections



AISC 13th(360-05): LRFD Code Check

Direct Analysis Method

Max Bending Check	**0.055**	Max Shear Check	**0.005 (y)**
Location	**16.7624 ft**	Location	**0 ft**
Equation	**H1-1b**	Max Defl Ratio	**L/1035**
Bending Flange	**Compact**	Compression Flange	**Non-Slender**
Bending Web	**Compact**	Compression Web	**Non-Slender**

Fy	**46 ksi**
phi*Pnc	**133.1778 k**
phi*Pnt	**428.9155 k**
phi*Mny	**101.4764 k-ft**
phi*Mnz	**101.4764 k-ft**
phi*Vny	**120.48 k**
phi*Vnz	**120.48 k**
phi*Tn	**84.1847 k-ft**
Cb	**1.1364**

	y-y	z-z
Lb	**34.2381 ft**	**34.2381 ft**
KL/r	**132.5683**	**132.5683**
Sway	**No**	**No**

L Comp Flange	**34.2381 ft**
Torque Length	**NC**
Tau_b	**1**

Member AISC 13th(360-05): LRFD Steel Code Checks

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1	1	M1	HSS6X6...	.079	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2	1	M2	HSS6X6...	.075	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3	1	M3	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4	1	M4	HSS6X6...	.075	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
5	1	M5	HSS6X6...	.047	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
6	1	M6	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
7	1	M7	HSS6X6...	.097	14.9531	.016	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
8	1	M8	HSS6X6...	.453	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
9	1	M9	HSS6X6...	.468	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
10	1	M10	HSS6X6...	.064	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
11	1	M11	HSS6X6...	.421	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
12	1	M12	HSS6X6...	.468	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
13	1	M13	HSS6X6...	.421	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
14	1	M14	HSS8X8...	.089	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
15	1	M15	HSS8X8...	.216	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
16	1	M16	HSS8X8...	.206	13.6563	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
17	1	M17	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
18	1	M18	HSS6X6...	.062	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
19	1	M19	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
20	1	M20	HSS6X6...	.077	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
21	1	M21	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
22	1	M22	HSS6X6...	.480	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.2...	H1-1a
23	1	M23	HSS6X6...	.101	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
24	1	M24	HSS6X6...	.386	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
25	1	M25	HSS6X6...	.419	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
26	1	M26	HSS6X6...	.419	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
27	1	M27	HSS6X6...	.422	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
28	1	M28	HSS6X6...	.425	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
29	1	M29	W18X50	.062	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
30	1	M30	W18X50	.069	15	.005	30	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
31	1	M31	W18X50	.062	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
32	1	M32	W18X50	.062	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
33	1	M33	W14X22	.190	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
34	1	M34	W14X22	.171	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
35	1	M35	W24X68	.079	10.335	.024	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
36	1	M36	W24X68	.013	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
37	1	M37	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
38	1	M38	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
39	1	M39	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
40	1	M40	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
41	1	M41	W24X68	.325	15.6924	.032	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
42	1	M42	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
43	1	M43	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
44	1	M44	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
45	1	M45	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
46	1	M46	W21X44	.491	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
47	1	M47	W21X44	.492	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
48	1	M48	W24X68	.329	16.0193	.032	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
49	1	M49	W14X22	.201	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
50	1	M50	W14X22	.201	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
51	1	M51	W14X22	.201	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
52	1	M52	W14X22	.201	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
53	1	M53	W14X22	.201	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
54	1	M54	W24X68	.300	15	.033	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
55	1	M55	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
56	1	M56	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
57	1	M57	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
58	1	M58	W24X94	.430	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
59	1	M59	W21X44	.491	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
60	1	M60	W21X44	.492	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
61	1	M61	W24X68	.300	15	.033	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
62	1	M62	W24X68	.325	15.6924	.032	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
63	1	M63	W24X68	.079	10.335	.023	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
64	1	M64	W24X68	.079	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
65	1	M65	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
66	1	M66	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
67	1	M67	W24X68	.418	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
68	1	M68	W24X68	.418	16.5	.037	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
69	1	M69	W24X68	.328	15.3654	.032	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
70	1	M70	W14X22	.201	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
71	1	M71	W14X22	.201	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
72	1	M72	W14X22	.201	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
73	1	M73	W14X22	.201	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
74	1	M74	W14X22	.201	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
75	1	M75	W14X22	.188	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
76	1	M76	W14X22	.188	15	.006	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
77	1	M77	W14X22	.188	15	.006	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
78	1	M78	W14X22	.188	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
79	1	M79	W14X22	.188	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
80	1	M80	W21X50	.050	22.6875	.003	0	y	35.8714	661.5	45.75	76.9962	1.1...	H1-1b
81	1	M81	W18X35	.123	15	.005	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
82	1	M82	W18X35	.009	16.51	.004	16.51	y	88.0592	463.5	30.225	229.2098	2.4...	H1-1b
83	1	M83	HSS6X6...	.090	15.9847	.006	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
84	1	M84	HSS6X6...	.087	15.9847	.006	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
85	1	M85	HSS8X8...	.064	16.7624	.006	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
86	1	M86	HSS8X8...	.059	16.1555	.006	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
87	1	M87	HSS4X4...	.097	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
88	1	M88	HSS4X4...	.097	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
89	1	M89	HSS6X6...	.070	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
90	1	M90	HSS6X6...	.056	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	1.8...	H1-1b
91	1	M91	HSS6X6...	.108	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
92	1	M92	HSS6X6...	.091	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
93	1	M93	HSS6X6...	.062	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
94	1	M94	HSS6X6...	.059	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
95	1	M95	HSS6X6...	.098	18.4476	.007	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
96	1	M96	W24X68	.013	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
97	1	M97	W18X35	.009	0	.004	0	y	88.2729	463.5	30.225	225.2101	2.3...	H1-1b
98	2	M1	HSS6X6...	.084	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
99	2	M2	HSS6X6...	.082	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
100	2	M3	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
101	2	M4	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
102	2	M5	HSS6X6...	.052	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
103	2	M6	HSS6X6...	.037	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
104	2	M7	HSS6X6...	.106	14.9531	.017	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
105	2	M8	HSS6X6...	.500	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
106	2	M9	HSS6X6...	.514	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
107	2	M10	HSS6X6...	.068	14.9531	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
108	2	M11	HSS6X6...	.472	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
109	2	M12	HSS6X6...	.521	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
110	2	M13	HSS6X6...	.472	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
111	2	M14	HSS8X8...	.095	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
112	2	M15	HSS8X8...	.236	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
113	2	M16	HSS8X8...	.224	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
114	2	M17	HSS6X6...	.052	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
115	2	M18	HSS6X6...	.067	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
116	2	M19	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
117	2	M20	HSS6X6...	.084	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
118	2	M21	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
119	2	M22	HSS6X6...	.531	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.2...	H1-1a
120	2	M23	HSS6X6...	.109	14.9531	.012	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
121	2	M24	HSS6X6...	.423	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.2...	H1-1a
122	2	M25	HSS6X6...	.464	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
123	2	M26	HSS6X6...	.464	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
124	2	M27	HSS6X6...	.461	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
125	2	M28	HSS6X6...	.464	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
126	2	M29	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
127	2	M30	W18X50	.059	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
128	2	M31	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
129	2	M32	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
130	2	M33	W14X22	.163	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
131	2	M34	W14X22	.147	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
132	2	M35	W24X68	.087	10.335	.027	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
133	2	M36	W24X68	.014	10.33	.016	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
134	2	M37	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
135	2	M38	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
136	2	M39	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
137	2	M40	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
138	2	M41	W24X68	.360	15.6924	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
139	2	M42	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
140	2	M43	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
141	2	M44	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
142	2	M45	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
143	2	M46	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
144	2	M47	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
145	2	M48	W24X68	.365	16.0193	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
146	2	M49	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
147	2	M50	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
148	2	M51	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
149	2	M52	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
150	2	M53	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
151	2	M54	W24X68	.332	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
152	2	M55	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
153	2	M56	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
154	2	M57	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
155	2	M58	W24X94	.482	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
156	2	M59	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
157	2	M60	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
158	2	M61	W24X68	.332	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
159	2	M62	W24X68	.359	15.6924	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
160	2	M63	W24X68	.087	10.335	.025	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
161	2	M64	W24X68	.087	10.33	.025	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
162	2	M65	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
163	2	M66	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
164	2	M67	W24X68	.463	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
165	2	M68	W24X68	.463	16.5	.041	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
166	2	M69	W24X68	.363	15.3654	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
167	2	M70	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
168	2	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
169	2	M72	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
170	2	M73	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
171	2	M74	W14X22	.173	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
172	2	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
173	2	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
174	2	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
175	2	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
176	2	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
177	2	M80	W21X50	.026	24.0625	.002	0	y	35.8714	661.5	45.75	89.0592	1.3...	H1-1b
178	2	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
179	2	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	241.1637	2.5...	H1-1b
180	2	M83	HSS6X6...	.079	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
181	2	M84	HSS6X6...	.076	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
182	2	M85	HSS8X8...	.055	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
183	2	M86	HSS8X8...	.051	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
184	2	M87	HSS4X4...	.101	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
185	2	M88	HSS4X4...	.101	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
186	2	M89	HSS6X6...	.068	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
187	2	M90	HSS6X6...	.055	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.0...	H1-1b
188	2	M91	HSS6X6...	.109	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
189	2	M92	HSS6X6...	.093	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
190	2	M93	HSS6X6...	.062	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
191	2	M94	HSS6X6...	.061	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
192	2	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
193	2	M96	W24X68	.014	0	.016	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
194	2	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	236.5337	2.5...	H1-1b
195	3	M1	HSS6X6...	.240	14.9531	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
196	3	M2	HSS6X6...	.243	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
197	3	M3	HSS6X6...	.243	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
198	3	M4	HSS6X6...	.243	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
199	3	M5	HSS6X6...	.076	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
200	3	M6	HSS6X6...	.054	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
201	3	M7	HSS6X6...	.156	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
202	3	M8	HSS6X6...	.746	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
203	3	M9	HSS6X6...	.763	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
204	3	M10	HSS6X6...	.097	0	.000	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
205	3	M11	HSS6X6...	.715	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
206	3	M12	HSS6X6...	.784	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
207	3	M13	HSS6X6...	.715	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
208	3	M14	HSS8X8...	.279	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1a
209	3	M15	HSS8X8...	.350	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
210	3	M16	HSS8X8...	.327	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
211	3	M17	HSS6X6...	.077	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
212	3	M18	HSS6X6...	.099	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
213	3	M19	HSS6X6...	.243	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
214	3	M20	HSS6X6...	.246	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
215	3	M21	HSS6X6...	.243	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
216	3	M22	HSS6X6...	.794	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.2...	H1-1a
217	3	M23	HSS6X6...	.276	14.9531	.017	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
218	3	M24	HSS6X6...	.625	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.2...	H1-1a
219	3	M25	HSS6X6...	.694	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
220	3	M26	HSS6X6...	.694	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
221	3	M27	HSS6X6...	.680	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
222	3	M28	HSS6X6...	.684	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
223	3	M29	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
224	3	M30	W18X50	.060	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
225	3	M31	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
226	3	M32	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
227	3	M33	W14X22	.164	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
228	3	M34	W14X22	.147	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
229	3	M35	W24X68	.131	10.335	.040	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
230	3	M36	W24X68	.021	10.33	.024	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
231	3	M37	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
232	3	M38	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
233	3	M39	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
234	3	M40	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
235	3	M41	W24X68	.538	15.6924	.052	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
236	3	M42	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
237	3	M43	W24X94	.733	16.5	.083	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
238	3	M44	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
239	3	M45	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
240	3	M46	W21X44	.864	10.33	.097	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
241	3	M47	W21X44	.866	10.335	.097	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
242	3	M48	W24X68	.546	16.0193	.052	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
243	3	M49	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
244	3	M50	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
245	3	M51	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
246	3	M52	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
247	3	M53	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
248	3	M54	W24X68	.498	15	.054	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
249	3	M55	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
250	3	M56	W24X94	.733	16.5	.083	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
251	3	M57	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
252	3	M58	W24X94	.733	16.5	.084	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
253	3	M59	W21X44	.864	10.33	.097	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
254	3	M60	W21X44	.866	10.335	.098	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
255	3	M61	W24X68	.498	15	.054	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
256	3	M62	W24X68	.538	16.0193	.052	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
257	3	M63	W24X68	.131	10.335	.037	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
258	3	M64	W24X68	.130	10.33	.037	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
259	3	M65	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
260	3	M66	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
261	3	M67	W24X68	.693	16.5	.060	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
262	3	M68	W24X68	.693	16.5	.061	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
263	3	M69	W24X68	.543	15.3654	.052	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
264	3	M70	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
265	3	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
266	3	M72	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
267	3	M73	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
268	3	M74	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
269	3	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
270	3	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
271	3	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
272	3	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
273	3	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
274	3	M80	W21X50	.028	16.5	.003	16.5	y	35.8714	661.5	45.75	109.8725	1.6...	H1-1b
275	3	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
276	3	M82	W18X35	.010	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.8...	H1-1b
277	3	M83	HSS6X6...	.083	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
278	3	M84	HSS6X6...	.079	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
279	3	M85	HSS8X8...	.055	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
280	3	M86	HSS8X8...	.051	16.1555	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
281	3	M87	HSS4X4...	.254	8.9223	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
282	3	M88	HSS4X4...	.254	10.5446	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
283	3	M89	HSS6X6...	.086	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
284	3	M90	HSS6X6...	.071	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
285	3	M91	HSS6X6...	.262	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1a
286	3	M92	HSS6X6...	.127	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.3...	H1-1b
287	3	M93	HSS6X6...	.080	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
288	3	M94	HSS6X6...	.084	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
289	3	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
290	3	M96	W24X68	.021	0	.024	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
291	3	M97	W18X35	.009	0	.003	0	y	88.2729	463.5	30.225	249.375	2.7...	H1-1b
292	4	M1	HSS6X6...	.239	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
293	4	M2	HSS6X6...	.228	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
294	4	M3	HSS6X6...	.228	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
295	4	M4	HSS6X6...	.228	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
296	4	M5	HSS6X6...	.072	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
297	4	M6	HSS6X6...	.051	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
298	4	M7	HSS6X6...	.132	14.9531	.018	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
299	4	M8	HSS6X6...	.690	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
300	4	M9	HSS6X6...	.704	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
301	4	M10	HSS6X6...	.103	14.9531	.005	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
302	4	M11	HSS6X6...	.659	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
303	4	M12	HSS6X6...	.724	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
304	4	M13	HSS6X6...	.654	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
305	4	M14	HSS8X8...	.256	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1a
306	4	M15	HSS8X8...	.332	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
307	4	M16	HSS8X8...	.291	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
308	4	M17	HSS6X6...	.072	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
309	4	M18	HSS6X6...	.092	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
310	4	M19	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
311	4	M20	HSS6X6...	.228	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
312	4	M21	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
313	4	M22	HSS6X6...	.736	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.2...	H1-1a
314	4	M23	HSS6X6...	.277	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
315	4	M24	HSS6X6...	.578	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.5...	H1-1a
316	4	M25	HSS6X6...	.637	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
317	4	M26	HSS6X6...	.637	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
318	4	M27	HSS6X6...	.628	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
319	4	M28	HSS6X6...	.635	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
320	4	M29	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
321	4	M30	W18X50	.060	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
322	4	M31	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
323	4	M32	W18X50	.053	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
324	4	M33	W14X22	.163	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
325	4	M34	W14X22	.147	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
326	4	M35	W24X68	.139	10.335	.036	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
327	4	M36	W24X68	.038	10.33	.022	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
328	4	M37	W24X68	.688	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
329	4	M38	W24X68	.688	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
330	4	M39	W24X68	.688	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
331	4	M40	W24X68	.688	16.5	.056	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
332	4	M41	W24X68	.498	15.6924	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
333	4	M42	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
334	4	M43	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
335	4	M44	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
336	4	M45	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
337	4	M46	W21X44	.795	10.33	.090	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
338	4	M47	W21X44	.796	10.335	.090	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
339	4	M48	W24X68	.505	16.0193	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
340	4	M49	W14X22	.205	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
341	4	M50	W14X22	.214	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
342	4	M51	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
343	4	M52	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
344	4	M53	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
345	4	M54	W24X68	.460	15	.050	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
346	4	M55	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
347	4	M56	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
348	4	M57	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
349	4	M58	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
350	4	M59	W21X44	.795	10.33	.090	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
351	4	M60	W21X44	.796	10.335	.090	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
352	4	M61	W24X68	.460	15	.050	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
353	4	M62	W24X68	.500	16.0193	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
354	4	M63	W24X68	.121	10.335	.035	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
355	4	M64	W24X68	.121	10.33	.034	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
356	4	M65	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
357	4	M66	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
358	4	M67	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
359	4	M68	W24X68	.641	16.5	.057	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
360	4	M69	W24X68	.505	15.3654	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
361	4	M70	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
362	4	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
363	4	M72	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
364	4	M73	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
365	4	M74	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
366	4	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
367	4	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
368	4	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
369	4	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
370	4	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
371	4	M80	W21X50	.022	16.5	.003	16.5	y	35.8714	661.5	45.75	76.5985	1.1...	H1-1b
372	4	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
373	4	M82	W18X35	.009	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
374	4	M83	HSS6X6...	.075	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
375	4	M84	HSS6X6...	.090	15.9847	.005	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
376	4	M85	HSS8X8...	.072	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
377	4	M86	HSS8X8...	.056	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
378	4	M87	HSS4X4...	.237	8.9223	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
379	4	M88	HSS4X4...	.237	10.5446	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
380	4	M89	HSS6X6...	.079	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
381	4	M90	HSS6X6...	.065	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
382	4	M91	HSS6X6...	.243	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1a
383	4	M92	HSS6X6...	.119	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.3...	H1-1b
384	4	M93	HSS6X6...	.077	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
385	4	M94	HSS6X6...	.079	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
386	4	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
387	4	M96	W24X68	.038	0	.022	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
388	4	M97	W18X35	.009	0	.003	0	y	88.2729	463.5	30.225	249.375	2.7...	H1-1b
389	5	M1	HSS6X6...	.224	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
390	5	M2	HSS6X6...	.225	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
391	5	M3	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
392	5	M4	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
393	5	M5	HSS6X6...	.070	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
394	5	M6	HSS6X6...	.050	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
395	5	M7	HSS6X6...	.146	14.9531	.024	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
396	5	M8	HSS6X6...	.690	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
397	5	M9	HSS6X6...	.707	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
398	5	M10	HSS6X6...	.092	14.9531	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
399	5	M11	HSS6X6...	.659	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
400	5	M12	HSS6X6...	.724	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
401	5	M13	HSS6X6...	.659	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
402	5	M14	HSS8X8...	.258	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1a
403	5	M15	HSS8X8...	.324	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
404	5	M16	HSS8X8...	.307	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
405	5	M17	HSS6X6...	.072	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
406	5	M18	HSS6X6...	.092	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
407	5	M19	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
408	5	M20	HSS6X6...	.231	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
409	5	M21	HSS6X6...	.225	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
410	5	M22	HSS6X6...	.725	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.25	H1-1a
411	5	M23	HSS6X6...	.258	14.9531	.016	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
412	5	M24	HSS6X6...	.586	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.2...	H1-1a
413	5	M25	HSS6X6...	.642	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
414	5	M26	HSS6X6...	.642	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
415	5	M27	HSS6X6...	.630	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
416	5	M28	HSS6X6...	.635	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
417	5	M29	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
418	5	M30	W18X50	.060	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
419	5	M31	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
420	5	M32	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
421	5	M33	W14X22	.164	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
422	5	M34	W14X22	.147	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
423	5	M35	W24X68	.122	10.335	.037	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
424	5	M36	W24X68	.020	10.33	.022	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
425	5	M37	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
426	5	M38	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
427	5	M39	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
428	5	M40	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
429	5	M41	W24X68	.498	15.6924	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
430	5	M42	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
431	5	M43	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
432	5	M44	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
433	5	M45	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
434	5	M46	W21X44	.795	10.33	.090	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
435	5	M47	W21X44	.796	10.335	.090	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
436	5	M48	W24X68	.558	16.0193	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
437	5	M49	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
438	5	M50	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
439	5	M51	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
440	5	M52	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
441	5	M53	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
442	5	M54	W24X68	.460	15	.050	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
443	5	M55	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
444	5	M56	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
445	5	M57	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
446	5	M58	W24X94	.676	16.5	.077	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
447	5	M59	W21X44	.795	10.33	.090	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
448	5	M60	W21X44	.796	10.335	.090	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
449	5	M61	W24X68	.509	15	.050	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
450	5	M62	W24X68	.551	15.6924	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
451	5	M63	W24X68	.122	10.335	.035	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
452	5	M64	W24X68	.122	10.33	.034	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
453	5	M65	W24X68	.644	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
454	5	M66	W24X68	.644	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
455	5	M67	W24X68	.641	16.5	.055	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
456	5	M68	W24X68	.641	16.5	.056	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
457	5	M69	W24X68	.503	15.3654	.048	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
458	5	M70	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
459	5	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
460	5	M72	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
461	5	M73	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
462	5	M74	W14X22	.173	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
463	5	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
464	5	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
465	5	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
466	5	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
467	5	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
468	5	M80	W21X50	.021	25.4375	.002	16.5	y	35.8714	661.5	45.75	78.6424	1.1...	H1-1b
469	5	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
470	5	M82	W18X35	.009	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
471	5	M83	HSS6X6...	.083	15.9847	.005	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
472	5	M84	HSS6X6...	.079	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
473	5	M85	HSS8X8...	.055	16.7624	.005	34.2381	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
474	5	M86	HSS8X8...	.051	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
475	5	M87	HSS4X4...	.255	8.9223	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
476	5	M88	HSS4X4...	.217	12.9779	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
477	5	M89	HSS6X6...	.075	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
478	5	M90	HSS6X6...	.062	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
479	5	M91	HSS6X6...	.261	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1a
480	5	M92	HSS6X6...	.124	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
481	5	M93	HSS6X6...	.068	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
482	5	M94	HSS6X6...	.073	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
483	5	M95	HSS6X6...	.086	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
484	5	M96	W24X68	.019	0	.022	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
485	5	M97	W18X35	.009	0	.003	0	y	88.2729	463.5	30.225	249.375	2.6...	H1-1b
486	6	M1	HSS6X6...	.097	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
487	6	M2	HSS6X6...	.075	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
488	6	M3	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
489	6	M4	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
490	6	M5	HSS6X6...	.047	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
491	6	M6	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
492	6	M7	HSS6X6...	.082	14.9531	.010	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
493	6	M8	HSS6X6...	.444	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
494	6	M9	HSS6X6...	.455	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
495	6	M10	HSS6X6...	.071	14.9531	.005	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
496	6	M11	HSS6X6...	.416	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
497	6	M12	HSS6X6...	.461	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
498	6	M13	HSS6X6...	.411	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
499	6	M14	HSS8X8...	.086	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
500	6	M15	HSS8X8...	.219	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
501	6	M16	HSS8X8...	.098	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
502	6	M17	HSS6X6...	.047	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
503	6	M18	HSS6X6...	.060	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
504	6	M19	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
505	6	M20	HSS6X6...	.075	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
506	6	M21	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
507	6	M22	HSS6X6...	.473	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
508	6	M23	HSS6X6...	.120	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
509	6	M24	HSS6X6...	.376	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.9...	H1-1a
510	6	M25	HSS6X6...	.407	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
511	6	M26	HSS6X6...	.407	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
512	6	M27	HSS6X6...	.409	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
513	6	M28	HSS6X6...	.415	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
514	6	M29	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
515	6	M30	W18X50	.060	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
516	6	M31	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
517	6	M32	W18X50	.053	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
518	6	M33	W14X22	.163	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
519	6	M34	W14X22	.146	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
520	6	M35	W24X68	.096	10.335	.023	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
521	6	M36	W24X68	.031	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
522	6	M37	W24X68	.458	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
523	6	M38	W24X68	.458	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
524	6	M39	W24X68	.458	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
525	6	M40	W24X68	.458	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
526	6	M41	W24X68	.319	15.6924	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
527	6	M42	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
528	6	M43	W24X94	.425	16.5	.048	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
529	6	M44	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
530	6	M45	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
531	6	M46	W21X44	.490	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
532	6	M47	W21X44	.491	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
533	6	M48	W24X68	.323	16.0193	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
534	6	M49	W14X22	.205	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
535	6	M50	W14X22	.214	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
536	6	M51	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
537	6	M52	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
538	6	M53	W14X22	.224	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
539	6	M54	W24X68	.295	15	.032	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
540	6	M55	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
541	6	M56	W24X94	.425	16.5	.048	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
542	6	M57	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
543	6	M58	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
544	6	M59	W21X44	.490	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
545	6	M60	W21X44	.491	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
546	6	M61	W24X68	.295	15	.032	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
547	6	M62	W24X68	.320	16.0193	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
548	6	M63	W24X68	.077	10.335	.023	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
549	6	M64	W24X68	.077	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
550	6	M65	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
551	6	M66	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
552	6	M67	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
553	6	M68	W24X68	.411	16.5	.037	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
554	6	M69	W24X68	.325	15.3654	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
555	6	M70	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
556	6	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
557	6	M72	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
558	6	M73	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
559	6	M74	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
560	6	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
561	6	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
562	6	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
563	6	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
564	6	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
565	6	M80	W21X50	.040	23.0313	.003	0	y	35.8714	661.5	45.75	78.1573	1.1...	H1-1b
566	6	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
567	6	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	235.1721	2.5...	H1-1b
568	6	M83	HSS6X6...	.071	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
569	6	M84	HSS6X6...	.087	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
570	6	M85	HSS8X8...	.071	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
571	6	M86	HSS8X8...	.056	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
572	6	M87	HSS4X4...	.092	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
573	6	M88	HSS4X4...	.092	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
574	6	M89	HSS6X6...	.061	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
575	6	M90	HSS6X6...	.050	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	1.9...	H1-1b
576	6	M91	HSS6X6...	.100	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
577	6	M92	HSS6X6...	.085	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
578	6	M93	HSS6X6...	.059	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
579	6	M94	HSS6X6...	.057	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
580	6	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
581	6	M96	W24X68	.031	0	.014	0	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
582	6	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	231.1246	2.4...	H1-1b
583	7	M1	HSS6X6...	.077	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
584	7	M2	HSS6X6...	.073	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
585	7	M3	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
586	7	M4	HSS6X6...	.073	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
587	7	M5	HSS6X6...	.046	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
588	7	M6	HSS6X6...	.033	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
589	7	M7	HSS6X6...	.096	14.9531	.016	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
590	7	M8	HSS6X6...	.444	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
591	7	M9	HSS6X6...	.458	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
592	7	M10	HSS6X6...	.063	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
593	7	M11	HSS6X6...	.416	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
594	7	M12	HSS6X6...	.461	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
595	7	M13	HSS6X6...	.416	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
596	7	M14	HSS8X8...	.087	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
597	7	M15	HSS8X8...	.211	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
598	7	M16	HSS8X8...	.202	5.6406	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
599	7	M17	HSS6X6...	.047	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
600	7	M18	HSS6X6...	.060	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
601	7	M19	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
602	7	M20	HSS6X6...	.076	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
603	7	M21	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
604	7	M22	HSS6X6...	.462	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
605	7	M23	HSS6X6...	.099	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
606	7	M24	HSS6X6...	.384	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1a
607	7	M25	HSS6X6...	.412	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
608	7	M26	HSS6X6...	.412	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
609	7	M27	HSS6X6...	.411	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
610	7	M28	HSS6X6...	.415	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
611	7	M29	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
612	7	M30	W18X50	.059	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
613	7	M31	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
614	7	M32	W18X50	.053	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
615	7	M33	W14X22	.163	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
616	7	M34	W14X22	.147	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
617	7	M35	W24X68	.079	10.335	.024	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
618	7	M36	W24X68	.013	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
619	7	M37	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
620	7	M38	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
621	7	M39	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
622	7	M40	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
623	7	M41	W24X68	.319	15.6924	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
624	7	M42	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
625	7	M43	W24X94	.425	16.5	.048	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
626	7	M44	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
627	7	M45	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
628	7	M46	W21X44	.490	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
629	7	M47	W21X44	.491	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
630	7	M48	W24X68	.377	16.0193	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
631	7	M49	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
632	7	M50	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
633	7	M51	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
634	7	M52	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
635	7	M53	W14X22	.173	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
636	7	M54	W24X68	.295	15	.032	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
637	7	M55	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
638	7	M56	W24X94	.425	16.5	.048	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
639	7	M57	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
640	7	M58	W24X94	.425	16.5	.049	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
641	7	M59	W21X44	.490	10.33	.055	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
642	7	M60	W21X44	.491	10.335	.055	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
643	7	M61	W24X68	.344	15	.032	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
644	7	M62	W24X68	.373	15.6924	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
645	7	M63	W24X68	.079	10.335	.022	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
646	7	M64	W24X68	.078	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
647	7	M65	W24X68	.414	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
648	7	M66	W24X68	.414	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
649	7	M67	W24X68	.411	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
650	7	M68	W24X68	.411	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
651	7	M69	W24X68	.322	15.3654	.031	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
652	7	M70	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
653	7	M71	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
654	7	M72	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
655	7	M73	W14X22	.173	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
656	7	M74	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
657	7	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
658	7	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
659	7	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
660	7	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
661	7	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
662	7	M80	W21X50	.048	22	.003	0	y	35.8714	661.5	45.75	75.4305	1.13	H1-1b
663	7	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
664	7	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	235.9755	2.5...	H1-1b
665	7	M83	HSS6X6...	.079	15.9847	.005	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
666	7	M84	HSS6X6...	.076	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
667	7	M85	HSS8X8...	.055	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
668	7	M86	HSS8X8...	.051	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
669	7	M87	HSS4X4...	.101	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
670	7	M88	HSS4X4...	.083	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
671	7	M89	HSS6X6...	.057	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.5...	H1-1b
672	7	M90	HSS6X6...	.047	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	1.8...	H1-1b
673	7	M91	HSS6X6...	.109	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
674	7	M92	HSS6X6...	.090	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
675	7	M93	HSS6X6...	.049	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
676	7	M94	HSS6X6...	.051	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
677	7	M95	HSS6X6...	.086	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
678	7	M96	W24X68	.012	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
679	7	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	229.9356	2.4...	H1-1b
680	8	M1	HSS6X6...	.153	15.125	.041	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
681	8	M2	HSS6X6...	.071	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
682	8	M3	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
683	8	M4	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
684	8	M5	HSS6X6...	.045	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
685	8	M6	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
686	8	M7	HSS6X6...	.140	14.9531	.038	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
687	8	M8	HSS6X6...	.452	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
688	8	M9	HSS6X6...	.421	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
689	8	M10	HSS6X6...	.401	14.9531	.066	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
690	8	M11	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
691	8	M12	HSS6X6...	.450	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
692	8	M13	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
693	8	M14	HSS8X8...	.088	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
694	8	M15	HSS8X8...	.317	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
695	8	M16	HSS8X8...	.106	16.625	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
696	8	M17	HSS6X6...	.046	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
697	8	M18	HSS6X6...	.059	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
698	8	M19	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
699	8	M20	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
700	8	M21	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
701	8	M22	HSS6X6...	.469	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1a
702	8	M23	HSS6X6...	.200	14.9531	.053	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
703	8	M24	HSS6X6...	.360	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1a
704	8	M25	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
705	8	M26	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
706	8	M27	HSS6X6...	.390	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
707	8	M28	HSS6X6...	.415	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
708	8	M29	W18X50	.055	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
709	8	M30	W18X50	.061	15	.005	30	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
710	8	M31	W18X50	.055	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
711	8	M32	W18X50	.445	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1a
712	8	M33	W14X22	.346	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1a
713	8	M34	W14X22	.239	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
714	8	M35	W24X68	.075	10.335	.025	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
715	8	M36	W24X68	.013	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
716	8	M37	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
717	8	M38	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
718	8	M39	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
719	8	M40	W24X68	.400	16.5	.037	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
720	8	M41	W24X68	.312	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
721	8	M42	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
722	8	M43	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
723	8	M44	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
724	8	M45	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
725	8	M46	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
726	8	M47	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
727	8	M48	W24X68	.312	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
728	8	M49	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
729	8	M50	W14X22	.174	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
730	8	M51	W14X22	.174	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
731	8	M52	W14X22	.174	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
732	8	M53	W14X22	.174	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
733	8	M54	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
734	8	M55	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
735	8	M56	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
736	8	M57	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
737	8	M58	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
738	8	M59	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
739	8	M60	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
740	8	M61	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
741	8	M62	W24X68	.330	16.0193	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
742	8	M63	W24X68	.075	10.335	.028	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
743	8	M64	W24X68	.075	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
744	8	M65	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
745	8	M66	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
746	8	M67	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
747	8	M68	W24X68	.400	16.5	.038	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
748	8	M69	W24X68	.326	15.3654	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
749	8	M70	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
750	8	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
751	8	M72	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
752	8	M73	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
753	8	M74	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
754	8	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
755	8	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
756	8	M77	W14X22	.161	15	.005	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
757	8	M78	W14X22	.161	15	.005	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
758	8	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
759	8	M80	W21X50	.071	19.9375	.003	0	y	35.8714	661.5	45.75	73.175	1.0...	H1-1b
760	8	M81	W18X35	.105	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
761	8	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	233.3809	2.4...	H1-1b
762	8	M83	HSS6X6...	.128	16.3248	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
763	8	M84	HSS6X6...	.885	15.6446	.005	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
764	8	M85	HSS8X8...	.498	16.7624	.005	34.2381	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1a
765	8	M86	HSS8X8...	.116	16.1555	.006	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
766	8	M87	HSS4X4...	.090	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
767	8	M88	HSS4X4...	.090	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
768	8	M89	HSS6X6...	.046	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.4...	H1-1b
769	8	M90	HSS6X6...	.038	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
770	8	M91	HSS6X6...	.092	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
771	8	M92	HSS6X6...	.079	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
772	8	M93	HSS6X6...	.065	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
773	8	M94	HSS6X6...	.061	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
774	8	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
775	8	M96	W24X68	.013	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
776	8	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	230.8916	2.4...	H1-1b
777	9	M1	HSS6X6...	.129	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
778	9	M2	HSS6X6...	.071	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
779	9	M3	HSS6X6...	.071	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
780	9	M4	HSS6X6...	.071	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
781	9	M5	HSS6X6...	.045	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
782	9	M6	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
783	9	M7	HSS6X6...	.157	14.9531	.042	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
784	9	M8	HSS6X6...	.423	0	.001	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
785	9	M9	HSS6X6...	.458	0	.001	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
786	9	M10	HSS6X6...	.122	14.9531	.032	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
787	9	M11	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
788	9	M12	HSS6X6...	.449	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
789	9	M13	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
790	9	M14	HSS8X8...	.141	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
791	9	M15	HSS8X8...	.206	0	.001	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
792	9	M16	HSS8X8...	.350	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
793	9	M17	HSS6X6...	.046	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
794	9	M18	HSS6X6...	.059	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
795	9	M19	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
796	9	M20	HSS6X6...	.224	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
797	9	M21	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
798	9	M22	HSS6X6...	.066	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1b
799	9	M23	HSS6X6...	.157	14.9531	.036	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
800	9	M24	HSS6X6...	.615	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1a
801	9	M25	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
802	9	M26	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
803	9	M27	HSS6X6...	.395	0	.001	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
804	9	M28	HSS6X6...	.411	0	.001	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
805	9	M29	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
806	9	M30	W18X50	.061	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
807	9	M31	W18X50	.054	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
808	9	M32	W18X50	.055	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
809	9	M33	W14X22	.166	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
810	9	M34	W14X22	.149	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
811	9	M35	W24X68	.075	10.335	.026	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
812	9	M36	W24X68	.029	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
813	9	M37	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
814	9	M38	W24X68	.400	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
815	9	M39	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
816	9	M40	W24X68	.400	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
817	9	M41	W24X68	.312	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
818	9	M42	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
819	9	M43	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
820	9	M44	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
821	9	M45	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
822	9	M46	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
823	9	M47	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
824	9	M48	W24X68	.323	16.0193	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
825	9	M49	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
826	9	M50	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
827	9	M51	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
828	9	M52	W14X22	.173	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
829	9	M53	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
830	9	M54	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
831	9	M55	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
832	9	M56	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
833	9	M57	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
834	9	M58	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
835	9	M59	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
836	9	M60	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
837	9	M61	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
838	9	M62	W24X68	.312	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
839	9	M63	W24X68	.075	10.335	.025	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
840	9	M64	W24X68	.075	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
841	9	M65	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
842	9	M66	W24X68	.563	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1a
843	9	M67	W24X68	.400	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
844	9	M68	W24X68	.400	16.5	.037	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
845	9	M69	W24X68	.321	15.3654	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
846	9	M70	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
847	9	M71	W14X22	.173	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
848	9	M72	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
849	9	M73	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
850	9	M74	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
851	9	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
852	9	M76	W14X22	.161	15	.006	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
853	9	M77	W14X22	.161	15	.006	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
854	9	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
855	9	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
856	9	M80	W21X50	.532	16.8438	.014	0	y	35.8714	661.5	45.75	85.3185	1.2...	H1-1b
857	9	M81	W18X35	.105	15	.005	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
858	9	M82	W18X35	.010	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
859	9	M83	HSS6X6...	.114	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
860	9	M84	HSS6X6...	.108	15.9847	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
861	9	M85	HSS8X8...	.056	16.7624	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
862	9	M86	HSS8X8...	.051	16.1555	.007	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
863	9	M87	HSS4X4...	.772	8.9223	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
864	9	M88	HSS4X4...	.077	9.7334	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
865	9	M89	HSS6X6...	.095	13.1296	.003	0	y	82.2648	216.29...	38.6248	38.6248	1.1...	H1-1b
866	9	M90	HSS6X6...	.085	9.5597	.003	20.3941	y	103.5321	216.29...	38.6248	38.6248	1.1...	H1-1b
867	9	M91	HSS6X6...	.690	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.2...	H1-1a
868	9	M92	HSS6X6...	.490	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	1.5...	H1-1a
869	9	M93	HSS6X6...	.111	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.4...	H1-1b
870	9	M94	HSS6X6...	.108	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.5...	H1-1b
871	9	M95	HSS6X6...	.138	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
872	9	M96	W24X68	.012	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
873	9	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	184.3435	1.9...	H1-1b
874	10	M1	HSS6X6...	.394	14.9531	.040	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
875	10	M2	HSS6X6...	.071	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
876	10	M3	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
877	10	M4	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
878	10	M5	HSS6X6...	.045	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
879	10	M6	HSS6X6...	.032	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
880	10	M7	HSS6X6...	.238	14.9531	.075	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
881	10	M8	HSS6X6...	.411	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
882	10	M9	HSS6X6...	.470	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
883	10	M10	HSS6X6...	.189	15.125	.065	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
884	10	M11	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
885	10	M12	HSS6X6...	.449	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
886	10	M13	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
887	10	M14	HSS8X8...	.081	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
888	10	M15	HSS8X8...	.048	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
889	10	M16	HSS8X8...	.446	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
890	10	M17	HSS6X6...	.046	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
891	10	M18	HSS6X6...	.059	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
892	10	M19	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
893	10	M20	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
894	10	M21	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
895	10	M22	HSS6X6...	.449	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
896	10	M23	HSS6X6...	.146	14.9531	.034	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
897	10	M24	HSS6X6...	.375	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
898	10	M25	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
899	10	M26	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
900	10	M27	HSS6X6...	.413	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
901	10	M28	HSS6X6...	.394	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
902	10	M29	W18X50	.067	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
903	10	M30	W18X50	.074	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
904	10	M31	W18X50	.067	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
905	10	M32	W18X50	.056	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
906	10	M33	W14X22	.170	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
907	10	M34	W14X22	.153	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
908	10	M35	W24X68	.075	10.335	.029	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
909	10	M36	W24X68	.013	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
910	10	M37	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
911	10	M38	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
912	10	M39	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
913	10	M40	W24X68	.400	16.5	.037	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
914	10	M41	W24X68	.322	15.3654	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
915	10	M42	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
916	10	M43	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
917	10	M44	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
918	10	M45	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
919	10	M46	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
920	10	M47	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
921	10	M48	W24X68	.332	16.0193	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
922	10	M49	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
923	10	M50	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
924	10	M51	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
925	10	M52	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
926	10	M53	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
927	10	M54	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
928	10	M55	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
929	10	M56	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
930	10	M57	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
931	10	M58	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
932	10	M59	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
933	10	M60	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
934	10	M61	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
935	10	M62	W24X68	.313	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
936	10	M63	W24X68	.075	10.335	.028	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
937	10	M64	W24X68	.075	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
938	10	M65	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
939	10	M66	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
940	10	M67	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
941	10	M68	W24X68	.400	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
942	10	M69	W24X68	.312	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
943	10	M70	W14X22	.174	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
944	10	M71	W14X22	.174	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
945	10	M72	W14X22	.174	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
946	10	M73	W14X22	.174	16.0193	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
947	10	M74	W14X22	.174	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
948	10	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
949	10	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
950	10	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
951	10	M78	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
952	10	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
953	10	M80	W21X50	.023	16.5	.003	16.5	y	35.8714	661.5	45.75	85.8405	1.2...	H1-1b
954	10	M81	W18X35	.106	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
955	10	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	234.8247	2.5...	H1-1b
956	10	M83	HSS6X6...	.768	15.6446	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
957	10	M84	HSS6X6...	.141	16.3248	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
958	10	M85	HSS8X8...	.122	17.1191	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
959	10	M86	HSS8X8...	.417	15.8189	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1a
960	10	M87	HSS4X4...	.090	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
961	10	M88	HSS4X4...	.090	10.139	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
962	10	M89	HSS6X6...	.082	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
963	10	M90	HSS6X6...	.065	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
964	10	M91	HSS6X6...	.108	23.3275	.004	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
965	10	M92	HSS6X6...	.089	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
966	10	M93	HSS6X6...	.048	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
967	10	M94	HSS6X6...	.050	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
968	10	M95	HSS6X6...	.084	18.4476	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
969	10	M96	W24X68	.013	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
970	10	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	228.7068	2.4...	H1-1b
971	11	M1	HSS6X6...	.140	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
972	11	M2	HSS6X6...	.071	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
973	11	M3	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
974	11	M4	HSS6X6...	.071	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
975	11	M5	HSS6X6...	.045	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
976	11	M6	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
977	11	M7	HSS6X6...	.083	14.9531	.012	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
978	11	M8	HSS6X6...	.443	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
979	11	M9	HSS6X6...	.435	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
980	11	M10	HSS6X6...	.136	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
981	11	M11	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
982	11	M12	HSS6X6...	.449	0	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
983	11	M13	HSS6X6...	.405	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
984	11	M14	HSS8X8...	.125	16.625	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
985	11	M15	HSS8X8...	.205	0	.001	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
986	11	M16	HSS8X8...	.090	16.625	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
987	11	M17	HSS6X6...	.046	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
988	11	M18	HSS6X6...	.059	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
989	11	M19	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
990	11	M20	HSS6X6...	.033	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
991	11	M21	HSS6X6...	.071	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
992	11	M22	HSS6X6...	.787	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
993	11	M23	HSS6X6...	.105	14.9531	.015	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
994	11	M24	HSS6X6...	.060	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1b
995	11	M25	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
996	11	M26	HSS6X6...	.401	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
997	11	M27	HSS6X6...	.408	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
998	11	M28	HSS6X6...	.397	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
999	11	M29	W18X50	.059	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1000	11	M30	W18X50	.066	15	.005	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1001	11	M31	W18X50	.059	14.5	.005	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1002	11	M32	W18X50	.058	14.5	.005	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1003	11	M33	W14X22	.194	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1004	11	M34	W14X22	.175	14.5	.005	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1005	11	M35	W24X68	.075	10.335	.023	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1006	11	M36	W24X68	.012	10.33	.014	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1007	11	M37	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1008	11	M38	W24X68	.400	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1009	11	M39	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1010	11	M40	W24X68	.400	16.5	.036	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1011	11	M41	W24X68	.318	15.3654	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1012	11	M42	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1013	11	M43	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1014	11	M44	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1015	11	M45	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1016	11	M46	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1017	11	M47	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1018	11	M48	W24X68	.311	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1019	11	M49	W14X22	.173	15.3654	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1020	11	M50	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1021	11	M51	W14X22	.173	15.3654	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1022	11	M52	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1023	11	M53	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1024	11	M54	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1025	11	M55	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1026	11	M56	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1027	11	M57	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1028	11	M58	W24X94	.414	16.5	.047	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1029	11	M59	W21X44	.476	10.33	.054	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1030	11	M60	W21X44	.477	10.335	.054	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1031	11	M61	W24X68	.287	15	.031	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1032	11	M62	W24X68	.319	16.0193	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1033	11	M63	W24X68	.075	10.335	.025	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1034	11	M64	W24X68	.075	10.33	.022	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
1035	11	M65	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1036	11	M66	W24X68	.400	16.5	.034	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1037	11	M67	W24X68	.400	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1038	11	M68	W24X68	.400	16.5	.035	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1039	11	M69	W24X68	.311	15.6924	.030	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1040	11	M70	W14X22	.173	16.0193	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1041	11	M71	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1042	11	M72	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1043	11	M73	W14X22	.173	15.6924	.005	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1044	11	M74	W14X22	.173	15.6924	.005	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1045	11	M75	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1046	11	M76	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1047	11	M77	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1048	11	M78	W14X22	.161	15	.005	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1049	11	M79	W14X22	.161	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1050	11	M80	W21X50	.484	16.5	.013	16.8438	y	35.8714	661.5	45.75	90.4334	1.3...	H1-1b
1051	11	M81	W18X35	.105	15	.005	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1052	11	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	207.938	2.2...	H1-1b
1053	11	M83	HSS6X6...	.072	16.3248	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1054	11	M84	HSS6X6...	.072	16.3248	.005	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1055	11	M85	HSS8X8...	.054	17.1191	.005	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1056	11	M86	HSS8X8...	.051	16.1555	.007	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1057	11	M87	HSS4X4...	.077	9.7334	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1058	11	M88	HSS4X4...	.772	10.5446	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
1059	11	M89	HSS6X6...	.538	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.9...	H1-1a
1060	11	M90	HSS6X6...	.402	0	.005	0	y	103.5321	216.29...	38.6248	38.6248	2.9...	H1-1a
1061	11	M91	HSS6X6...	.092	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
1062	11	M92	HSS6X6...	.090	0	.004	0	y	103.4111	216.29...	38.6248	38.6248	2.5...	H1-1b
1063	11	M93	HSS6X6...	.632	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.1...	H1-1a
1064	11	M94	HSS6X6...	.456	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1a
1065	11	M95	HSS6X6...	.789	17.6789	.006	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1a
1066	11	M96	W24X68	.029	0	.014	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1067	11	M97	W18X35	.010	0	.003	0	y	88.2729	463.5	30.225	249.375	2.7...	H1-1b
1068	12	M1	HSS6X6...	.097	14.9531	.040	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1069	12	M2	HSS6X6...	.019	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1070	12	M3	HSS6X6...	.019	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1071	12	M4	HSS6X6...	.019	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1072	12	M5	HSS6X6...	.013	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1073	12	M6	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1074	12	M7	HSS6X6...	.052	14.9531	.018	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1075	12	M8	HSS6X6...	.033	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1076	12	M9	HSS6X6...	.033	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1077	12	M10	HSS6X6...	.070	14.9531	.022	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1078	12	M11	HSS6X6...	.025	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1079	12	M12	HSS6X6...	.031	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
1080	12	M13	HSS6X6...	.015	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1081	12	M14	HSS8X8...	.018	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1082	12	M15	HSS8X8...	.034	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1083	12	M16	HSS8X8...	.021	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.38	H1-1b
1084	12	M17	HSS6X6...	.009	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1085	12	M18	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1086	12	M19	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1087	12	M20	HSS6X6...	.013	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1088	12	M21	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1089	12	M22	HSS6X6...	.037	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	2.5...	H1-1b
1090	12	M23	HSS6X6...	.104	14.9531	.037	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1091	12	M24	HSS6X6...	.030	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	3	H1-1b
1092	12	M25	HSS6X6...	.021	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1093	12	M26	HSS6X6...	.021	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1094	12	M27	HSS6X6...	.034	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1095	12	M28	HSS6X6...	.040	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1096	12	M29	W18X50	.041	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1097	12	M30	W18X50	.046	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1098	12	M31	W18X50	.041	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1099	12	M32	W18X50	.048	14.5	.003	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1100	12	M33	W14X22	.172	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1101	12	M34	W14X22	.155	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1102	12	M35	W24X68	.086	10.335	.006	20.67	z	258.5051	904.5	91.875	392.5011	1.1...	H1-1b
1103	12	M36	W24X68	.078	10.33	.005	0	z	618.0979	904.5	91.875	663.75	3	H1-1b
1104	12	M37	W24X68	.249	16.5	.008	0	z	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1105	12	M38	W24X68	.249	16.5	.007	0	z	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1106	12	M39	W24X68	.249	16.5	.007	0	z	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1107	12	M40	W24X68	.249	16.5	.010	0	z	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1108	12	M41	W24X68	.046	15.6924	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1109	12	M42	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1110	12	M43	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1111	12	M44	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1112	12	M45	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1113	12	M46	W21X44	.038	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1114	12	M47	W21X44	.038	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1115	12	M48	W24X68	.047	16.0193	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1116	12	M49	W14X22	.372	15.0385	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1117	12	M50	W14X22	.449	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1118	12	M51	W14X22	.526	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1119	12	M52	W14X22	.526	15.0385	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1120	12	M53	W14X22	.526	15.0385	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1121	12	M54	W24X68	.043	15	.005	30	y	122.7178	904.5	91.875	217.0362	1.1...	H1-1b
1122	12	M55	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1123	12	M56	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1124	12	M57	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1125	12	M58	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1126	12	M59	W21X44	.038	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1127	12	M60	W21X44	.038	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1128	12	M61	W24X68	.043	15	.005	30	y	122.7178	904.5	91.875	217.0362	1.1...	H1-1b
1129	12	M62	W24X68	.053	16.0193	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1130	12	M63	W24X68	.011	10.335	.005	20.67	y	258.5051	904.5	91.875	392.5011	1.1...	H1-1b
1131	12	M64	W24X68	.011	10.33	.003	20.66	y	258.7554	904.5	91.875	392.8199	1.1...	H1-1b
1132	12	M65	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1133	12	M66	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1134	12	M67	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1135	12	M68	W24X68	.060	16.5	.007	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1136	12	M69	W24X68	.057	15.3654	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1137	12	M70	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1138	12	M71	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1139	12	M72	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1140	12	M73	W14X22	.129	16.0193	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1141	12	M74	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1142	12	M75	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1143	12	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1144	12	M77	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1145	12	M78	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1146	12	M79	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1147	12	M80	W21X50	.087	16.8438	.003	0	y	35.8714	661.5	45.75	76.853	1.1...	H1-1b
1148	12	M81	W18X35	.079	15	.003	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1149	12	M82	W18X35	.006	16.51	.002	16.51	y	88.0592	463.5	30.225	188.6185	2.0...	H1-1b
1150	12	M83	HSS6X6...	.055	16.3248	.004	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1151	12	M84	HSS6X6...	.101	15.9847	.004	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1152	12	M85	HSS8X8...	.105	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1153	12	M86	HSS8X8...	.057	16.1555	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1154	12	M87	HSS4X4...	.030	9.3279	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1155	12	M88	HSS4X4...	.030	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1156	12	M89	HSS6X6...	.018	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
1157	12	M90	HSS6X6...	.014	11.6841	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.2...	H1-1b
1158	12	M91	HSS6X6...	.032	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1159	12	M92	HSS6X6...	.024	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
1160	12	M93	HSS6X6...	.028	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.0...	H1-1b
1161	12	M94	HSS6X6...	.021	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.0...	H1-1b
1162	12	M95	HSS6X6...	.063	18.0632	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1163	12	M96	W24X68	.078	0	.005	10.33	z	618.0979	904.5	91.875	663.75	3	H1-1b
1164	12	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	188.3669	2.0...	H1-1b
1165	13	M1	HSS6X6...	.023	14.9531	.004	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1166	13	M2	HSS6X6...	.012	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1167	13	M3	HSS6X6...	.012	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1168	13	M4	HSS6X6...	.012	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1169	13	M5	HSS6X6...	.008	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1170	13	M6	HSS6X6...	.006	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1171	13	M7	HSS6X6...	.024	14.9531	.006	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1172	13	M8	HSS6X6...	.033	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1173	13	M9	HSS6X6...	.038	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1174	13	M10	HSS6X6...	.022	14.9531	.005	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1175	13	M11	HSS6X6...	.025	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1176	13	M12	HSS6X6...	.031	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
1177	13	M13	HSS6X6...	.025	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1178	13	M14	HSS8X8...	.026	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1179	13	M15	HSS8X8...	.018	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1180	13	M16	HSS8X8...	.036	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1181	13	M17	HSS6X6...	.009	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1182	13	M18	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1183	13	M19	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1184	13	M20	HSS6X6...	.018	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1185	13	M21	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1186	13	M22	HSS6X6...	.016	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	2.2...	H1-1b
1187	13	M23	HSS6X6...	.025	14.9531	.005	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1188	13	M24	HSS6X6...	.046	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	2.7...	H1-1b
1189	13	M25	HSS6X6...	.030	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1190	13	M26	HSS6X6...	.030	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1191	13	M27	HSS6X6...	.036	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1192	13	M28	HSS6X6...	.037	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1193	13	M29	W18X50	.040	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1194	13	M30	W18X50	.044	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1195	13	M31	W18X50	.040	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1196	13	M32	W18X50	.040	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1197	13	M33	W14X22	.122	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1198	13	M34	W14X22	.109	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1199	13	M35	W24X68	.016	10.335	.004	20.67	y	258.5051	904.5	91.875	392.5011	1.1...	H1-1b
1200	13	M36	W24X68	.004	10.33	.002	10.33	y	618.0979	904.5	91.875	663.75	2.3...	H1-1b
1201	13	M37	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1202	13	M38	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1203	13	M39	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1204	13	M40	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1205	13	M41	W24X68	.046	15.6924	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1206	13	M42	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1207	13	M43	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1208	13	M44	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1209	13	M45	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1210	13	M46	W21X44	.038	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1211	13	M47	W21X44	.038	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1212	13	M48	W24X68	.262	15.6924	.009	0	z	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1213	13	M49	W14X22	.129	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1214	13	M50	W14X22	.129	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1215	13	M51	W14X22	.129	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1216	13	M52	W14X22	.129	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1217	13	M53	W14X22	.129	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1218	13	M54	W24X68	.043	15	.005	30	y	122.7178	904.5	91.875	217.0362	1.1...	H1-1b
1219	13	M55	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1220	13	M56	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1221	13	M57	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1222	13	M58	W24X94	.049	16.5	.006	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1223	13	M59	W21X44	.038	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1224	13	M60	W21X44	.038	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1225	13	M61	W24X68	.239	15	.008	0	z	122.7178	904.5	91.875	217.0362	1.1...	H1-1b
1226	13	M62	W24X68	.261	15.6924	.009	0	z	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1227	13	M63	W24X68	.016	10.335	.004	20.67	y	258.5051	904.5	91.875	392.5011	1.1...	H1-1b
1228	13	M64	W24X68	.016	10.33	.003	20.66	y	258.7554	904.5	91.875	392.8199	1.1...	H1-1b
1229	13	M65	W24X68	.072	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1230	13	M66	W24X68	.072	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1231	13	M67	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1232	13	M68	W24X68	.060	16.5	.005	33	y	101.4197	904.5	91.875	188.5614	1.1...	H1-1b
1233	13	M69	W24X68	.048	15.3654	.005	31.3847	y	112.1279	904.5	91.875	202.9409	1.1...	H1-1b
1234	13	M70	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1235	13	M71	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1236	13	M72	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1237	13	M73	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1238	13	M74	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1239	13	M75	W14X22	.121	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1240	13	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1241	13	M77	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1242	13	M78	W14X22	.121	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1243	13	M79	W14X22	.121	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1244	13	M80	W21X50	.121	16.8438	.004	0	y	35.8714	661.5	45.75	79.9012	1.1...	H1-1b
1245	13	M81	W18X35	.079	15	.003	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1246	13	M82	W18X35	.006	16.51	.002	16.51	y	88.0592	463.5	30.225	197.3977	2.1...	H1-1b
1247	13	M83	HSS6X6...	.058	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1248	13	M84	HSS6X6...	.057	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1249	13	M85	HSS8X8...	.041	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1250	13	M86	HSS8X8...	.038	16.1555	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1251	13	M87	HSS4X4...	.065	9.3279	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1252	13	M88	HSS4X4...	.022	9.7334	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1253	13	M89	HSS6X6...	.018	9.9688	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.2...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1254	13	M90	HSS6X6...	.017	11.6841	.002	0	y	103.5321	216.29...	38.6248	38.6248	1.2...	H1-1b
1255	13	M91	HSS6X6...	.067	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.1...	H1-1b
1256	13	M92	HSS6X6...	.047	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	1.98	H1-1b
1257	13	M93	HSS6X6...	.030	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
1258	13	M94	HSS6X6...	.029	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
1259	13	M95	HSS6X6...	.070	18.4476	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1260	13	M96	W24X68	.002	0	.002	0	y	618.0979	904.5	91.875	663.75	2.3...	H1-1b
1261	13	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	172.9661	1.8...	H1-1b
1262	14	M1	HSS6X6...	.129	15.125	.040	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1263	14	M2	HSS6X6...	.048	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1264	14	M3	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1265	14	M4	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1266	14	M5	HSS6X6...	.030	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1267	14	M6	HSS6X6...	.022	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1268	14	M7	HSS6X6...	.132	14.9531	.042	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1269	14	M8	HSS6X6...	.311	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1270	14	M9	HSS6X6...	.276	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1271	14	M10	HSS6X6...	.363	14.9531	.066	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
1272	14	M11	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1273	14	M12	HSS6X6...	.301	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1274	14	M13	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1275	14	M14	HSS8X8...	.062	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1276	14	M15	HSS8X8...	.250	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1277	14	M16	HSS8X8...	.075	16.625	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1278	14	M17	HSS6X6...	.031	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1279	14	M18	HSS6X6...	.040	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1280	14	M19	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1281	14	M20	HSS6X6...	.049	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1282	14	M21	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1283	14	M22	HSS6X6...	.318	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1a
1284	14	M23	HSS6X6...	.168	14.9531	.049	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1285	14	M24	HSS6X6...	.241	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1286	14	M25	HSS6X6...	.269	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1287	14	M26	HSS6X6...	.269	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1288	14	M27	HSS6X6...	.260	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1289	14	M28	HSS6X6...	.284	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1290	14	M29	W18X50	.042	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1291	14	M30	W18X50	.046	15	.004	30	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1292	14	M31	W18X50	.042	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1293	14	M32	W18X50	.437	14.5	.003	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1a
1294	14	M33	W14X22	.335	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1a
1295	14	M34	W14X22	.310	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1a
1296	14	M35	W24X68	.051	10.335	.019	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1297	14	M36	W24X68	.008	10.33	.009	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1298	14	M37	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1299	14	M38	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1300	14	M39	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1301	14	M40	W24X68	.269	16.5	.026	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1302	14	M41	W24X68	.210	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1303	14	M42	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1304	14	M43	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1305	14	M44	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1306	14	M45	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1307	14	M46	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1308	14	M47	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1309	14	M48	W24X68	.210	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1310	14	M49	W14X22	.130	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1311	14	M50	W14X22	.130	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1312	14	M51	W14X22	.130	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1313	14	M52	W14X22	.130	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1314	14	M53	W14X22	.130	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1315	14	M54	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1316	14	M55	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1317	14	M56	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1318	14	M57	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1319	14	M58	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1320	14	M59	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1321	14	M60	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1322	14	M61	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1323	14	M62	W24X68	.228	16.0193	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1324	14	M63	W24X68	.051	10.335	.021	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1325	14	M64	W24X68	.051	10.33	.015	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
1326	14	M65	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1327	14	M66	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1328	14	M67	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1329	14	M68	W24X68	.269	16.5	.026	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1330	14	M69	W24X68	.223	15.3654	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1331	14	M70	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1332	14	M71	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1333	14	M72	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1334	14	M73	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1335	14	M74	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1336	14	M75	W14X22	.121	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1337	14	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1338	14	M77	W14X22	.121	15	.004	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1339	14	M78	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1340	14	M79	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1341	14	M80	W21X50	.067	18.2188	.003	0	y	35.8714	661.5	45.75	73.9257	1.1...	H1-1b
1342	14	M81	W18X35	.079	15	.003	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1343	14	M82	W18X35	.006	16.51	.002	16.51	y	88.0592	463.5	30.225	228.2357	2.4...	H1-1b
1344	14	M83	HSS6X6...	.112	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1345	14	M84	HSS6X6...	.865	15.6446	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
1346	14	M85	HSS8X8...	.484	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1a
1347	14	M86	HSS8X8...	.103	16.1555	.004	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1348	14	M87	HSS4X4...	.063	9.3279	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1349	14	M88	HSS4X4...	.063	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1350	14	M89	HSS6X6...	.028	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
1351	14	M90	HSS6X6...	.023	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.5...	H1-1b
1352	14	M91	HSS6X6...	.062	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1353	14	M92	HSS6X6...	.053	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
1354	14	M93	HSS6X6...	.048	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
1355	14	M94	HSS6X6...	.044	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
1356	14	M95	HSS6X6...	.063	18.4476	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1357	14	M96	W24X68	.008	0	.009	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1358	14	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	226.6529	2.4...	H1-1b
1359	15	M1	HSS6X6...	.104	14.9531	.028	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1360	15	M2	HSS6X6...	.048	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1361	15	M3	HSS6X6...	.048	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1362	15	M4	HSS6X6...	.048	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1363	15	M5	HSS6X6...	.030	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1364	15	M6	HSS6X6...	.022	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1365	15	M7	HSS6X6...	.127	14.9531	.036	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1366	15	M8	HSS6X6...	.281	0	.001	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1367	15	M9	HSS6X6...	.312	14.8438	.001	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1368	15	M10	HSS6X6...	.102	14.9531	.031	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1369	15	M11	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1370	15	M12	HSS6X6...	.301	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1371	15	M13	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1372	15	M14	HSS8X8...	.114	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1373	15	M15	HSS8X8...	.071	16.3281	.001	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1374	15	M16	HSS8X8...	.286	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1375	15	M17	HSS6X6...	.031	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1376	15	M18	HSS6X6...	.040	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1377	15	M19	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1378	15	M20	HSS6X6...	.089	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1379	15	M21	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1380	15	M22	HSS6X6...	.005	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1b
1381	15	M23	HSS6X6...	.125	14.9531	.032	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1382	15	M24	HSS6X6...	.495	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1a
1383	15	M25	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1384	15	M26	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1385	15	M27	HSS6X6...	.264	0	.001	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1386	15	M28	HSS6X6...	.280	0	.001	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1387	15	M29	W18X50	.041	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1388	15	M30	W18X50	.046	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1389	15	M31	W18X50	.041	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1390	15	M32	W18X50	.041	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1391	15	M33	W14X22	.125	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1392	15	M34	W14X22	.113	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1393	15	M35	W24X68	.051	10.335	.018	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1394	15	M36	W24X68	.025	10.33	.009	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1395	15	M37	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1396	15	M38	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1397	15	M39	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1398	15	M40	W24X68	.269	16.5	.025	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1399	15	M41	W24X68	.210	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1400	15	M42	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1401	15	M43	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1402	15	M44	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1403	15	M45	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1404	15	M46	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1405	15	M47	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1406	15	M48	W24X68	.219	16.0193	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1407	15	M49	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1408	15	M50	W14X22	.129	15.6924	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1409	15	M51	W14X22	.129	15.6924	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1410	15	M52	W14X22	.129	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1411	15	M53	W14X22	.130	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1412	15	M54	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1413	15	M55	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1414	15	M56	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1415	15	M57	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1416	15	M58	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1417	15	M59	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1418	15	M60	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1419	15	M61	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1420	15	M62	W24X68	.210	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1421	15	M63	W24X68	.051	10.335	.018	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1422	15	M64	W24X68	.051	10.33	.015	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
1423	15	M65	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1424	15	M66	W24X68	.446	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1425	15	M67	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1426	15	M68	W24X68	.269	16.5	.025	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1427	15	M69	W24X68	.218	15.3654	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1428	15	M70	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1429	15	M71	W14X22	.129	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1430	15	M72	W14X22	.130	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1431	15	M73	W14X22	.130	16.0193	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1432	15	M74	W14X22	.130	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1433	15	M75	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1434	15	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1435	15	M77	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1436	15	M78	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1437	15	M79	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1438	15	M80	W21X50	.525	16.8438	.013	33	y	35.8714	661.5	45.75	85.9006	1.2...	H1-1b
1439	15	M81	W18X35	.079	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1440	15	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
1441	15	M83	HSS6X6...	.094	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1442	15	M84	HSS6X6...	.089	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1443	15	M85	HSS8X8...	.042	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1444	15	M86	HSS8X8...	.038	16.1555	.006	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1445	15	M87	HSS4X4...	.722	8.9223	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
1446	15	M88	HSS4X4...	.076	9.7334	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1447	15	M89	HSS6X6...	.097	14.3454	.003	0	y	82.2648	216.29...	38.6248	38.6248	1.1...	H1-1b
1448	15	M90	HSS6X6...	.087	8.4975	.003	20.3941	y	103.5321	216.29...	38.6248	38.6248	1.1...	H1-1b
1449	15	M91	HSS6X6...	.636	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.3...	H1-1a
1450	15	M92	HSS6X6...	.446	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	1.3...	H1-1a
1451	15	M93	HSS6X6...	.109	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
1452	15	M94	HSS6X6...	.106	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.6...	H1-1b
1453	15	M95	HSS6X6...	.117	18.4476	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1454	15	M96	W24X68	.008	0	.009	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1455	15	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	146.3327	1.5...	H1-1b
1456	16	M1	HSS6X6...	.348	14.9531	.039	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
1457	16	M2	HSS6X6...	.048	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1458	16	M3	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1459	16	M4	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1460	16	M5	HSS6X6...	.030	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1461	16	M6	HSS6X6...	.022	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1462	16	M7	HSS6X6...	.207	14.9531	.069	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1463	16	M8	HSS6X6...	.269	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1464	16	M9	HSS6X6...	.324	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1465	16	M10	HSS6X6...	.173	14.9531	.064	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1466	16	M11	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1467	16	M12	HSS6X6...	.301	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1468	16	M13	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1469	16	M14	HSS8X8...	.054	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1470	16	M15	HSS8X8...	.015	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1471	16	M16	HSS8X8...	.382	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1472	16	M17	HSS6X6...	.031	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1473	16	M18	HSS6X6...	.040	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1474	16	M19	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1475	16	M20	HSS6X6...	.049	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1476	16	M21	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1477	16	M22	HSS6X6...	.298	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.4...	H1-1a
1478	16	M23	HSS6X6...	.130	14.9531	.036	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1479	16	M24	HSS6X6...	.256	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1480	16	M25	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1481	16	M26	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1482	16	M27	HSS6X6...	.283	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1483	16	M28	HSS6X6...	.263	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1484	16	M29	W18X50	.055	14.5	.003	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1485	16	M30	W18X50	.061	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1486	16	M31	W18X50	.055	14.5	.003	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1487	16	M32	W18X50	.043	14.5	.003	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1488	16	M33	W14X22	.129	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1489	16	M34	W14X22	.116	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1490	16	M35	W24X68	.051	10.335	.021	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1491	16	M36	W24X68	.008	10.33	.009	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1492	16	M37	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1493	16	M38	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1494	16	M39	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1495	16	M40	W24X68	.269	16.5	.026	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1496	16	M41	W24X68	.220	15.3654	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1497	16	M42	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1498	16	M43	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1499	16	M44	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1500	16	M45	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1501	16	M46	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1502	16	M47	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1503	16	M48	W24X68	.229	16.0193	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1504	16	M49	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1505	16	M50	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1506	16	M51	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1507	16	M52	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1508	16	M53	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1509	16	M54	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1510	16	M55	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1511	16	M56	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1512	16	M57	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1513	16	M58	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1514	16	M59	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1515	16	M60	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1516	16	M61	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1517	16	M62	W24X68	.211	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1518	16	M63	W24X68	.051	10.335	.021	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1519	16	M64	W24X68	.051	10.33	.015	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
1520	16	M65	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1521	16	M66	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1522	16	M67	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1523	16	M68	W24X68	.269	16.5	.025	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1524	16	M69	W24X68	.210	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1525	16	M70	W14X22	.130	16.0193	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1526	16	M71	W14X22	.130	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1527	16	M72	W14X22	.130	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1528	16	M73	W14X22	.130	16.0193	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1529	16	M74	W14X22	.130	16.0193	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1530	16	M75	W14X22	.121	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1531	16	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1532	16	M77	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1533	16	M78	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1534	16	M79	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1535	16	M80	W21X50	.019	16.5	.002	16.5	y	35.8714	661.5	45.75	98.5316	1.4...	H1-1b
1536	16	M81	W18X35	.079	15	.003	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1537	16	M82	W18X35	.006	16.51	.002	16.51	y	88.0592	463.5	30.225	230.2124	2.4...	H1-1b
1538	16	M83	HSS6X6...	.747	15.6446	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1539	16	M84	HSS6X6...	.125	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1540	16	M85	HSS8X8...	.109	17.1191	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1541	16	M86	HSS8X8...	.405	15.8189	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1a
1542	16	M87	HSS4X4...	.063	9.3279	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1543	16	M88	HSS4X4...	.063	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1544	16	M89	HSS6X6...	.063	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.0...	H1-1b
1545	16	M90	HSS6X6...	.050	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
1546	16	M91	HSS6X6...	.078	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1547	16	M92	HSS6X6...	.064	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
1548	16	M93	HSS6X6...	.032	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
1549	16	M94	HSS6X6...	.033	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
1550	16	M95	HSS6X6...	.063	18.4476	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1551	16	M96	W24X68	.008	0	.009	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1552	16	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	223.6932	2.3...	H1-1b
1553	17	M1	HSS6X6...	.117	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1554	17	M2	HSS6X6...	.048	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1555	17	M3	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1556	17	M4	HSS6X6...	.048	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1557	17	M5	HSS6X6...	.030	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1558	17	M6	HSS6X6...	.022	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1559	17	M7	HSS6X6...	.074	14.9531	.016	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1560	17	M8	HSS6X6...	.301	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1561	17	M9	HSS6X6...	.289	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1562	17	M10	HSS6X6...	.117	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1563	17	M11	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1564	17	M12	HSS6X6...	.301	0	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1565	17	M13	HSS6X6...	.271	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1566	17	M14	HSS8X8...	.099	16.625	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1567	17	M15	HSS8X8...	.070	16.3281	.001	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1568	17	M16	HSS8X8...	.060	16.625	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1569	17	M17	HSS6X6...	.031	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1570	17	M18	HSS6X6...	.040	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1571	17	M19	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1572	17	M20	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1573	17	M21	HSS6X6...	.048	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1574	17	M22	HSS6X6...	.635	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1575	17	M23	HSS6X6...	.088	14.9531	.018	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1576	17	M24	HSS6X6...	.003	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1b
1577	17	M25	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1578	17	M26	HSS6X6...	.270	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1579	17	M27	HSS6X6...	.278	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1580	17	M28	HSS6X6...	.266	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1581	17	M29	W18X50	.048	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1582	17	M30	W18X50	.053	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1583	17	M31	W18X50	.047	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1584	17	M32	W18X50	.047	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1585	17	M33	W14X22	.166	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1586	17	M34	W14X22	.150	14.5	.003	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1587	17	M35	W24X68	.051	10.335	.016	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1588	17	M36	W24X68	.008	10.33	.009	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1589	17	M37	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1590	17	M38	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1591	17	M39	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1592	17	M40	W24X68	.269	16.5	.025	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1593	17	M41	W24X68	.216	15.3654	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1594	17	M42	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1595	17	M43	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1596	17	M44	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1597	17	M45	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1598	17	M46	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1599	17	M47	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1600	17	M48	W24X68	.209	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1601	17	M49	W14X22	.130	15.3654	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1602	17	M50	W14X22	.130	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1603	17	M51	W14X22	.130	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1604	17	M52	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1605	17	M53	W14X22	.129	15.6924	.003	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1606	17	M54	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1607	17	M55	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1608	17	M56	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1609	17	M57	W24X94	.276	16.5	.032	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1610	17	M58	W24X94	.276	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1611	17	M59	W21X44	.316	10.33	.036	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1612	17	M60	W21X44	.316	10.335	.036	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1613	17	M61	W24X68	.193	15	.021	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
1614	17	M62	W24X68	.217	16.0193	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1615	17	M63	W24X68	.051	10.335	.017	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
1616	17	M64	W24X68	.051	10.33	.015	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
1617	17	M65	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1618	17	M66	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1619	17	M67	W24X68	.269	16.5	.023	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1620	17	M68	W24X68	.269	16.5	.024	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
1621	17	M69	W24X68	.209	15.6924	.020	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
1622	17	M70	W14X22	.130	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1623	17	M71	W14X22	.129	15.6924	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1624	17	M72	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1625	17	M73	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1626	17	M74	W14X22	.129	15.6924	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1627	17	M75	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1628	17	M76	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1629	17	M77	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1630	17	M78	W14X22	.121	15	.004	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1631	17	M79	W14X22	.121	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1632	17	M80	W21X50	.483	16.5	.012	16.8438	y	35.8714	661.5	45.75	89.764	1.3...	H1-1b
1633	17	M81	W18X35	.079	15	.003	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1634	17	M82	W18X35	.006	16.51	.002	16.51	y	88.0592	463.5	30.225	189.4293	2.0...	H1-1b
1635	17	M83	HSS6X6...	.056	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1636	17	M84	HSS6X6...	.056	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1637	17	M85	HSS8X8...	.040	17.1191	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1638	17	M86	HSS8X8...	.038	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1639	17	M87	HSS4X4...	.076	9.7334	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1640	17	M88	HSS4X4...	.722	10.5446	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
1641	17	M89	HSS6X6...	.507	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.7...	H1-1a
1642	17	M90	HSS6X6...	.379	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.8...	H1-1a
1643	17	M91	HSS6X6...	.095	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	1.4...	H1-1b
1644	17	M92	HSS6X6...	.092	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.6...	H1-1b
1645	17	M93	HSS6X6...	.604	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.2...	H1-1a
1646	17	M94	HSS6X6...	.429	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.3...	H1-1a
1647	17	M95	HSS6X6...	.770	17.6789	.004	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1a
1648	17	M96	W24X68	.025	0	.009	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1649	17	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	249.375	2.8...	H1-1b
1650	18	M1	HSS6X6...	.089	14.9531	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1651	18	M2	HSS6X6...	.089	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1652	18	M3	HSS6X6...	.089	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1653	18	M4	HSS6X6...	.089	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1654	18	M5	HSS6X6...	.056	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1655	18	M6	HSS6X6...	.040	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1656	18	M7	HSS6X6...	.114	14.9531	.018	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1657	18	M8	HSS6X6...	.547	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1658	18	M9	HSS6X6...	.560	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1659	18	M10	HSS6X6...	.072	0	.000	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1660	18	M11	HSS6X6...	.522	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1661	18	M12	HSS6X6...	.574	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1662	18	M13	HSS6X6...	.522	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1663	18	M14	HSS8X8...	.205	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1a
1664	18	M15	HSS8X8...	.257	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1665	18	M16	HSS8X8...	.240	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1666	18	M17	HSS6X6...	.057	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1667	18	M18	HSS6X6...	.073	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1668	18	M19	HSS6X6...	.089	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1669	18	M20	HSS6X6...	.091	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1670	18	M21	HSS6X6...	.089	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1671	18	M22	HSS6X6...	.582	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
1672	18	M23	HSS6X6...	.117	14.9531	.012	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1673	18	M24	HSS6X6...	.460	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
1674	18	M25	HSS6X6...	.509	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1675	18	M26	HSS6X6...	.509	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1676	18	M27	HSS6X6...	.500	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1677	18	M28	HSS6X6...	.504	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1678	18	M29	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1679	18	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1680	18	M31	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1681	18	M32	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1682	18	M33	W14X22	.137	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1683	18	M34	W14X22	.123	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1684	18	M35	W24X68	.096	10.335	.029	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1685	18	M36	W24X68	.015	10.33	.017	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1686	18	M37	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1687	18	M38	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1688	18	M39	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1689	18	M40	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1690	18	M41	W24X68	.394	15.6924	.038	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1691	18	M42	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1692	18	M43	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1693	18	M44	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1694	18	M45	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1695	18	M46	W21X44	.628	10.33	.071	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1696	18	M47	W21X44	.629	10.335	.071	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1697	18	M48	W24X68	.400	16.0193	.038	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1698	18	M49	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1699	18	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1700	18	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1701	18	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1702	18	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1703	18	M54	W24X68	.365	15	.040	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1704	18	M55	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1705	18	M56	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1706	18	M57	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1707	18	M58	W24X94	.535	16.5	.061	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1708	18	M59	W21X44	.628	10.33	.071	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1709	18	M60	W21X44	.629	10.335	.071	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1710	18	M61	W24X68	.365	15	.040	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1711	18	M62	W24X68	.395	16.0193	.038	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1712	18	M63	W24X68	.096	10.335	.027	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1713	18	M64	W24X68	.096	10.33	.027	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
1714	18	M65	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1715	18	M66	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1716	18	M67	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1717	18	M68	W24X68	.508	16.5	.044	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1718	18	M69	W24X68	.398	15.3654	.038	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1719	18	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1720	18	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1721	18	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1722	18	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1723	18	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1724	18	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1725	18	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1726	18	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1727	18	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1728	18	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1729	18	M80	W21X50	.019	16.5	.002	16.5	y	35.8714	661.5	45.75	80.4648	1.2...	H1-1b
1730	18	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1731	18	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
1732	18	M83	HSS6X6...	.068	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1733	18	M84	HSS6X6...	.065	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1734	18	M85	HSS8X8...	.046	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1735	18	M86	HSS8X8...	.042	16.1555	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1736	18	M87	HSS4X4...	.104	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1737	18	M88	HSS4X4...	.104	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1738	18	M89	HSS6X6...	.066	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
1739	18	M90	HSS6X6...	.055	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
1740	18	M91	HSS6X6...	.110	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1741	18	M92	HSS6X6...	.096	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
1742	18	M93	HSS6X6...	.061	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
1743	18	M94	HSS6X6...	.063	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
1744	18	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1745	18	M96	W24X68	.015	0	.017	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1746	18	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	249.375	2.6...	H1-1b
1747	19	M1	HSS6X6...	.085	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1748	19	M2	HSS6X6...	.035	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1749	19	M3	HSS6X6...	.035	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1750	19	M4	HSS6X6...	.035	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1751	19	M5	HSS6X6...	.023	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1752	19	M6	HSS6X6...	.017	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1753	19	M7	HSS6X6...	.040	14.9531	.006	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1754	19	M8	HSS6X6...	.092	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1755	19	M9	HSS6X6...	.094	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1756	19	M10	HSS6X6...	.062	14.9531	.013	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1757	19	M11	HSS6X6...	.081	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1758	19	M12	HSS6X6...	.093	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
1759	19	M13	HSS6X6...	.075	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1760	19	M14	HSS8X8...	.039	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1761	19	M15	HSS8X8...	.055	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1762	19	M16	HSS8X8...	.044	16.625	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1763	19	M17	HSS6X6...	.020	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1764	19	M18	HSS6X6...	.026	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1765	19	M19	HSS6X6...	.031	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1766	19	M20	HSS6X6...	.032	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1767	19	M21	HSS6X6...	.031	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1768	19	M22	HSS6X6...	.098	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
1769	19	M23	HSS6X6...	.096	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1770	19	M24	HSS6X6...	.079	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
1771	19	M25	HSS6X6...	.079	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1772	19	M26	HSS6X6...	.079	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1773	19	M27	HSS6X6...	.086	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1774	19	M28	HSS6X6...	.091	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1775	19	M29	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1776	19	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1777	19	M31	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1778	19	M32	W18X50	.047	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1779	19	M33	W14X22	.153	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1780	19	M34	W14X22	.137	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1781	19	M35	W24X68	.078	10.335	.010	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1782	19	M36	W24X68	.053	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.4...	H1-1b
1783	19	M37	W24X68	.286	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1784	19	M38	W24X68	.286	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1785	19	M39	W24X68	.286	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1786	19	M40	W24X68	.286	16.5	.016	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1787	19	M41	W24X68	.130	15.6924	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1788	19	M42	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1789	19	M43	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1790	19	M44	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1791	19	M45	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1792	19	M46	W21X44	.177	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1793	19	M47	W21X44	.178	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1794	19	M48	W24X68	.132	16.0193	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1795	19	M49	W14X22	.224	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1796	19	M50	W14X22	.336	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1797	19	M51	W14X22	.384	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1798	19	M52	W14X22	.384	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1799	19	M53	W14X22	.384	15.0385	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
1800	19	M54	W24X68	.120	15	.013	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1801	19	M55	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1802	19	M56	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1803	19	M57	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1804	19	M58	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1805	19	M59	W21X44	.177	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1806	19	M60	W21X44	.178	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1807	19	M61	W24X68	.120	15	.013	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1808	19	M62	W24X68	.134	16.0193	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1809	19	M63	W24X68	.032	10.335	.010	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1810	19	M64	W24X68	.032	10.33	.009	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
1811	19	M65	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1812	19	M66	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1813	19	M67	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1814	19	M68	W24X68	.168	16.5	.016	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1815	19	M69	W24X68	.138	15.3654	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1816	19	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1817	19	M71	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1818	19	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1819	19	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1820	19	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1821	19	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1822	19	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1823	19	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1824	19	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1825	19	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1826	19	M80	W21X50	.069	18.9063	.003	0	y	35.8714	661.5	45.75	73.7186	1.1...	H1-1b
1827	19	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1828	19	M82	W18X35	.006	16.51	.003	16.51	y	88.0592	463.5	30.225	209.2346	2.2...	H1-1b
1829	19	M83	HSS6X6...	.058	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1830	19	M84	HSS6X6...	.090	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1831	19	M85	HSS8X8...	.085	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1832	19	M86	HSS8X8...	.054	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1833	19	M87	HSS4X4...	.049	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1834	19	M88	HSS4X4...	.049	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1835	19	M89	HSS6X6...	.034	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.4...	H1-1b
1836	19	M90	HSS6X6...	.026	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.4...	H1-1b
1837	19	M91	HSS6X6...	.054	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1838	19	M92	HSS6X6...	.043	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
1839	19	M93	HSS6X6...	.037	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
1840	19	M94	HSS6X6...	.032	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
1841	19	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1842	19	M96	W24X68	.053	0	.006	0	y	618.0979	904.5	91.875	663.75	2.4...	H1-1b
1843	19	M97	W18X35	.006	0	.003	0	y	88.2729	463.5	30.225	207.335	2.2...	H1-1b
1844	20	M1	HSS6X6...	.039	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1845	20	M2	HSS6X6...	.031	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1846	20	M3	HSS6X6...	.031	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
1847	20	M4	HSS6X6...	.031	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
1848	20	M5	HSS6X6...	.020	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1849	20	M6	HSS6X6...	.015	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1850	20	M7	HSS6X6...	.045	14.9531	.009	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1851	20	M8	HSS6X6...	.091	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1852	20	M9	HSS6X6...	.097	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
1853	20	M10	HSS6X6...	.034	14.9531	.004	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1854	20	M11	HSS6X6...	.081	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1855	20	M12	HSS6X6...	.093	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
1856	20	M13	HSS6X6...	.081	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
1857	20	M14	HSS8X8...	.044	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1858	20	M15	HSS8X8...	.045	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1859	20	M16	HSS8X8...	.056	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1860	20	M17	HSS6X6...	.020	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1861	20	M18	HSS6X6...	.026	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1862	20	M19	HSS6X6...	.031	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1863	20	M20	HSS6X6...	.035	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1864	20	M21	HSS6X6...	.031	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1865	20	M22	HSS6X6...	.085	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
1866	20	M23	HSS6X6...	.047	14.9531	.007	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1867	20	M24	HSS6X6...	.089	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
1868	20	M25	HSS6X6...	.084	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1869	20	M26	HSS6X6...	.084	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
1870	20	M27	HSS6X6...	.088	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1871	20	M28	HSS6X6...	.090	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
1872	20	M29	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1873	20	M30	W18X50	.049	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1874	20	M31	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1875	20	M32	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1876	20	M33	W14X22	.136	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1877	20	M34	W14X22	.122	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1878	20	M35	W24X68	.035	10.335	.010	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1879	20	M36	W24X68	.006	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
1880	20	M37	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1881	20	M38	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1882	20	M39	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1883	20	M40	W24X68	.168	16.5	.015	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1884	20	M41	W24X68	.130	15.6924	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1885	20	M42	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1886	20	M43	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1887	20	M44	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1888	20	M45	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1889	20	M46	W21X44	.177	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1890	20	M47	W21X44	.178	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1891	20	M48	W24X68	.267	16.0193	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1892	20	M49	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1893	20	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1894	20	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1895	20	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1896	20	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1897	20	M54	W24X68	.120	15	.013	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1898	20	M55	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1899	20	M56	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1900	20	M57	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1901	20	M58	W24X94	.165	16.5	.019	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1902	20	M59	W21X44	.177	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1903	20	M60	W21X44	.178	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1904	20	M61	W24X68	.243	15	.013	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
1905	20	M62	W24X68	.264	15.6924	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1906	20	M63	W24X68	.035	10.335	.009	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1907	20	M64	W24X68	.035	10.33	.009	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
1908	20	M65	W24X68	.176	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1909	20	M66	W24X68	.176	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1910	20	M67	W24X68	.168	16.5	.014	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1911	20	M68	W24X68	.168	16.5	.015	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1912	20	M69	W24X68	.132	15.3654	.013	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1913	20	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1914	20	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1915	20	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1916	20	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1917	20	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1918	20	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1919	20	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1920	20	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1921	20	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1922	20	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1923	20	M80	W21X50	.090	16.8438	.003	0	y	35.8714	661.5	45.75	75.8172	1.1...	H1-1b
1924	20	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
1925	20	M82	W18X35	.006	16.51	.003	16.51	y	88.0592	463.5	30.225	211.9782	2.2...	H1-1b
1926	20	M83	HSS6X6...	.064	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1927	20	M84	HSS6X6...	.063	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
1928	20	M85	HSS8X8...	.045	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
1929	20	M86	HSS8X8...	.042	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
1930	20	M87	HSS4X4...	.071	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1931	20	M88	HSS4X4...	.025	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
1932	20	M89	HSS6X6...	.023	9.4825	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
1933	20	M90	HSS6X6...	.019	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.3...	H1-1b
1934	20	M91	HSS6X6...	.075	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
1935	20	M92	HSS6X6...	.058	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
1936	20	M93	HSS6X6...	.023	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
1937	20	M94	HSS6X6...	.023	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1938	20	M95	HSS6X6...	.074	18.4476	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
1939	20	M96	W24X68	.005	0	.006	0	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
1940	20	M97	W18X35	.006	0	.003	0	y	88.2729	463.5	30.225	203.2827	2.1...	H1-1b
1941	21	M1	HSS6X6...	.108	15.125	.028	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1942	21	M2	HSS6X6...	.053	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1943	21	M3	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1944	21	M4	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1945	21	M5	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1946	21	M6	HSS6X6...	.024	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1947	21	M7	HSS6X6...	.097	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1948	21	M8	HSS6X6...	.337	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1949	21	M9	HSS6X6...	.316	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
1950	21	M10	HSS6X6...	.201	14.9531	.045	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1951	21	M11	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1952	21	M12	HSS6X6...	.335	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
1953	21	M13	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
1954	21	M14	HSS8X8...	.066	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
1955	21	M15	HSS8X8...	.231	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
1956	21	M16	HSS8X8...	.079	16.625	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
1957	21	M17	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1958	21	M18	HSS6X6...	.044	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1959	21	M19	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1960	21	M20	HSS6X6...	.055	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1961	21	M21	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
1962	21	M22	HSS6X6...	.349	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
1963	21	M23	HSS6X6...	.142	14.9531	.036	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
1964	21	M24	HSS6X6...	.271	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.8...	H1-1a
1965	21	M25	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1966	21	M26	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
1967	21	M27	HSS6X6...	.293	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1968	21	M28	HSS6X6...	.311	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
1969	21	M29	W18X50	.046	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1970	21	M30	W18X50	.051	15	.004	30	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
1971	21	M31	W18X50	.046	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
1972	21	M32	W18X50	.316	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1a
1973	21	M33	W14X22	.202	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
1974	21	M34	W14X22	.184	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
1975	21	M35	W24X68	.056	10.335	.019	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
1976	21	M36	W24X68	.009	10.33	.010	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
1977	21	M37	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1978	21	M38	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1979	21	M39	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1980	21	M40	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
1981	21	M41	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1982	21	M42	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1983	21	M43	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1984	21	M44	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1985	21	M45	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1986	21	M46	W21X44	.351	10.33	.039	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
1987	21	M47	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
1988	21	M48	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
1989	21	M49	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1990	21	M50	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1991	21	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1992	21	M52	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1993	21	M53	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
1994	21	M54	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
1995	21	M55	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1996	21	M56	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1997	21	M57	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1998	21	M58	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
1999	21	M59	W21X44	.351	10.33	.039	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2000	21	M60	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2001	21	M61	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2002	21	M62	W24X68	.245	16.0193	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2003	21	M63	W24X68	.056	10.335	.021	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2004	21	M64	W24X68	.056	10.33	.016	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2005	21	M65	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2006	21	M66	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2007	21	M67	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2008	21	M68	W24X68	.299	16.5	.028	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2009	21	M69	W24X68	.243	15.3654	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2010	21	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2011	21	M71	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2012	21	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2013	21	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2014	21	M74	W14X22	.144	15.6924	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2015	21	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2016	21	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2017	21	M77	W14X22	.135	15	.004	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2018	21	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2019	21	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2020	21	M80	W21X50	.058	19.9375	.003	0	y	35.8714	661.5	45.75	73.2065	1.0...	H1-1b
2021	21	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2022	21	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	228.5881	2.4...	H1-1b
2023	21	M83	HSS6X6...	.099	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2024	21	M84	HSS6X6...	.628	15.6446	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
2025	21	M85	HSS8X8...	.352	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1a
2026	21	M86	HSS8X8...	.088	16.1555	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2027	21	M87	HSS4X4...	.069	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2028	21	M88	HSS4X4...	.069	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2029	21	M89	HSS6X6...	.038	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.4...	H1-1b
2030	21	M90	HSS6X6...	.031	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
2031	21	M91	HSS6X6...	.072	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2032	21	M92	HSS6X6...	.061	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
2033	21	M93	HSS6X6...	.050	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
2034	21	M94	HSS6X6...	.046	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
2035	21	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2036	21	M96	W24X68	.009	0	.010	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2037	21	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	226.1033	2.4...	H1-1b
2038	22	M1	HSS6X6...	.092	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2039	22	M2	HSS6X6...	.053	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2040	22	M3	HSS6X6...	.053	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2041	22	M4	HSS6X6...	.053	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2042	22	M5	HSS6X6...	.034	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2043	22	M6	HSS6X6...	.024	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2044	22	M7	HSS6X6...	.113	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2045	22	M8	HSS6X6...	.316	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2046	22	M9	HSS6X6...	.342	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2047	22	M10	HSS6X6...	.087	14.9531	.021	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2048	22	M11	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2049	22	M12	HSS6X6...	.335	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2050	22	M13	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2051	22	M14	HSS8X8...	.103	16.3281	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2052	22	M15	HSS8X8...	.078	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2053	22	M16	HSS8X8...	.254	16.3281	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2054	22	M17	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2055	22	M18	HSS6X6...	.044	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2056	22	M19	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2057	22	M20	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2058	22	M21	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2059	22	M22	HSS6X6...	.057	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
2060	22	M23	HSS6X6...	.112	14.9531	.024	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2061	22	M24	HSS6X6...	.448	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2062	22	M25	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2063	22	M26	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2064	22	M27	HSS6X6...	.297	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2065	22	M28	HSS6X6...	.308	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2066	22	M29	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2067	22	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2068	22	M31	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2069	22	M32	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2070	22	M33	W14X22	.138	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2071	22	M34	W14X22	.124	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2072	22	M35	W24X68	.056	10.335	.019	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2073	22	M36	W24X68	.021	10.33	.010	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2074	22	M37	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2075	22	M38	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2076	22	M39	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2077	22	M40	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2078	22	M41	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2079	22	M42	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2080	22	M43	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2081	22	M44	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2082	22	M45	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2083	22	M46	W21X44	.351	10.33	.040	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2084	22	M47	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2085	22	M48	W24X68	.241	16.0193	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2086	22	M49	W14X22	.144	15.6924	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2087	22	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2088	22	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2089	22	M52	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2090	22	M53	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2091	22	M54	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2092	22	M55	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2093	22	M56	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2094	22	M57	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2095	22	M58	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2096	22	M59	W21X44	.351	10.33	.040	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2097	22	M60	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2098	22	M61	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2099	22	M62	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2100	22	M63	W24X68	.056	10.335	.018	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2101	22	M64	W24X68	.056	10.33	.016	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2102	22	M65	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2103	22	M66	W24X68	.371	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2104	22	M67	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2105	22	M68	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2106	22	M69	W24X68	.239	15.3654	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2107	22	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2108	22	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2109	22	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2110	22	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2111	22	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2112	22	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2113	22	M76	W14X22	.135	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2114	22	M77	W14X22	.135	15	.005	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2115	22	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2116	22	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2117	22	M80	W21X50	.377	16.8438	.010	0	y	35.8714	661.5	45.75	84.8795	1.2...	H1-1b
2118	22	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2119	22	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	248.8704	2.6...	H1-1b
2120	22	M83	HSS6X6...	.089	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2121	22	M84	HSS6X6...	.085	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2122	22	M85	HSS8X8...	.047	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2123	22	M86	HSS8X8...	.043	16.1555	.006	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2124	22	M87	HSS4X4...	.548	8.9223	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
2125	22	M88	HSS4X4...	.056	9.7334	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2126	22	M89	HSS6X6...	.067	12.4002	.003	0	y	82.2648	216.29...	38.6248	38.6248	1.1...	H1-1b
2127	22	M90	HSS6X6...	.060	9.9846	.003	20.3941	y	103.5321	216.29...	38.6248	38.6248	1.1...	H1-1b
2128	22	M91	HSS6X6...	.492	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.2...	H1-1a
2129	22	M92	HSS6X6...	.350	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1a
2130	22	M93	HSS6X6...	.081	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.5...	H1-1b
2131	22	M94	HSS6X6...	.078	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.4...	H1-1b
2132	22	M95	HSS6X6...	.108	18.4476	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2133	22	M96	W24X68	.009	0	.010	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2134	22	M97	W18X35	.006	0	.003	0	y	88.2729	463.5	30.225	187.6382	1.9...	H1-1b
2135	23	M1	HSS6X6...	.280	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
2136	23	M2	HSS6X6...	.053	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2137	23	M3	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2138	23	M4	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2139	23	M5	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2140	23	M6	HSS6X6...	.024	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2141	23	M7	HSS6X6...	.169	14.9531	.052	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2142	23	M8	HSS6X6...	.308	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2143	23	M9	HSS6X6...	.351	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2144	23	M10	HSS6X6...	.133	15.125	.045	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2145	23	M11	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2146	23	M12	HSS6X6...	.335	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2147	23	M13	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2148	23	M14	HSS8X8...	.061	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2149	23	M15	HSS8X8...	.039	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2150	23	M16	HSS8X8...	.320	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2151	23	M17	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2152	23	M18	HSS6X6...	.044	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2153	23	M19	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2154	23	M20	HSS6X6...	.055	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2155	23	M21	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2156	23	M22	HSS6X6...	.336	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.8...	H1-1a
2157	23	M23	HSS6X6...	.102	14.9531	.022	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2158	23	M24	HSS6X6...	.281	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2159	23	M25	HSS6X6...	.300	0	.000	0	z	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2160	23	M26	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2161	23	M27	HSS6X6...	.309	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2162	23	M28	HSS6X6...	.296	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2163	23	M29	W18X50	.053	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2164	23	M30	W18X50	.059	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2165	23	M31	W18X50	.054	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2166	23	M32	W18X50	.046	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2167	23	M33	W14X22	.141	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2168	23	M34	W14X22	.127	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2169	23	M35	W24X68	.056	10.335	.021	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2170	23	M36	W24X68	.009	10.33	.010	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2171	23	M37	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2172	23	M38	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2173	23	M39	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2174	23	M40	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2175	23	M41	W24X68	.240	15.3654	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2176	23	M42	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2177	23	M43	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2178	23	M44	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2179	23	M45	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2180	23	M46	W21X44	.351	10.33	.039	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2181	23	M47	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2182	23	M48	W24X68	.247	16.0193	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2183	23	M49	W14X22	.144	15.6924	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2184	23	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2185	23	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2186	23	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2187	23	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2188	23	M54	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2189	23	M55	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2190	23	M56	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2191	23	M57	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2192	23	M58	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2193	23	M59	W21X44	.351	10.33	.039	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2194	23	M60	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2195	23	M61	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2196	23	M62	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2197	23	M63	W24X68	.056	10.335	.021	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2198	23	M64	W24X68	.056	10.33	.016	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2199	23	M65	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2200	23	M66	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2201	23	M67	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2202	23	M68	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2203	23	M69	W24X68	.233	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2204	23	M70	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2205	23	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2206	23	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2207	23	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2208	23	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2209	23	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2210	23	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2211	23	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2212	23	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2213	23	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2214	23	M80	W21X50	.017	7.5625	.002	16.5	y	35.8714	661.5	45.75	81.5834	1.2...	H1-1b
2215	23	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2216	23	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	229.8301	2.4...	H1-1b
2217	23	M83	HSS6X6...	.547	15.6446	.004	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
2218	23	M84	HSS6X6...	.107	16.3248	.004	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2219	23	M85	HSS8X8...	.092	17.1191	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2220	23	M86	HSS8X8...	.295	15.8189	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1a
2221	23	M87	HSS4X4...	.069	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2222	23	M88	HSS4X4...	.069	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2223	23	M89	HSS6X6...	.063	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
2224	23	M90	HSS6X6...	.050	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.0...	H1-1b
2225	23	M91	HSS6X6...	.083	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2226	23	M92	HSS6X6...	.068	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
2227	23	M93	HSS6X6...	.039	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
2228	23	M94	HSS6X6...	.039	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2229	23	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2230	23	M96	W24X68	.009	0	.010	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2231	23	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	224.2779	2.3...	H1-1b
2232	24	M1	HSS6X6...	.099	14.9531	.017	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2233	24	M2	HSS6X6...	.053	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2234	24	M3	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2235	24	M4	HSS6X6...	.053	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2236	24	M5	HSS6X6...	.034	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2237	24	M6	HSS6X6...	.024	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2238	24	M7	HSS6X6...	.057	14.9531	.007	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2239	24	M8	HSS6X6...	.330	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2240	24	M9	HSS6X6...	.326	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2241	24	M10	HSS6X6...	.096	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2242	24	M11	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2243	24	M12	HSS6X6...	.335	0	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2244	24	M13	HSS6X6...	.301	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2245	24	M14	HSS8X8...	.088	16.625	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.5...	H1-1b
2246	24	M15	HSS8X8...	.077	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2247	24	M16	HSS8X8...	.065	16.3281	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2248	24	M17	HSS6X6...	.034	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2249	24	M18	HSS6X6...	.044	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
2250	24	M19	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2251	24	M20	HSS6X6...	.027	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2252	24	M21	HSS6X6...	.053	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2253	24	M22	HSS6X6...	.571	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2254	24	M23	HSS6X6...	.073	14.9531	.009	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2255	24	M24	HSS6X6...	.052	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
2256	24	M25	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2257	24	M26	HSS6X6...	.300	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2258	24	M27	HSS6X6...	.306	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2259	24	M28	HSS6X6...	.299	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2260	24	M29	W18X50	.048	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2261	24	M30	W18X50	.053	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2262	24	M31	W18X50	.048	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2263	24	M32	W18X50	.047	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2264	24	M33	W14X22	.154	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2265	24	M34	W14X22	.138	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2266	24	M35	W24X68	.056	10.335	.017	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2267	24	M36	W24X68	.009	10.33	.010	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2268	24	M37	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2269	24	M38	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2270	24	M39	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2271	24	M40	W24X68	.299	16.5	.027	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2272	24	M41	W24X68	.237	15.3654	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2273	24	M42	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2274	24	M43	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2275	24	M44	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2276	24	M45	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2277	24	M46	W21X44	.351	10.33	.040	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2278	24	M47	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2279	24	M48	W24X68	.232	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2280	24	M49	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2281	24	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2282	24	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2283	24	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2284	24	M53	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2285	24	M54	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2286	24	M55	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2287	24	M56	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2288	24	M57	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2289	24	M58	W24X94	.307	16.5	.035	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2290	24	M59	W21X44	.351	10.33	.040	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2291	24	M60	W21X44	.351	10.335	.040	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2292	24	M61	W24X68	.214	15	.023	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2293	24	M62	W24X68	.238	16.0193	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2294	24	M63	W24X68	.056	10.335	.018	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2295	24	M64	W24X68	.056	10.33	.016	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2296	24	M65	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2297	24	M66	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2298	24	M67	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2299	24	M68	W24X68	.299	16.5	.026	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2300	24	M69	W24X68	.232	15.6924	.023	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2301	24	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2302	24	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2303	24	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2304	24	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2305	24	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2306	24	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2307	24	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2308	24	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2309	24	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2310	24	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2311	24	M80	W21X50	.317	16.5	.009	16.8438	y	35.8714	661.5	45.75	91.1656	1.3...	H1-1b
2312	24	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2313	24	M82	W18X35	.006	16.51	.003	16.51	y	88.0592	463.5	30.225	207.0812	2.2...	H1-1b
2314	24	M83	HSS6X6...	.059	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2315	24	M84	HSS6X6...	.059	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2316	24	M85	HSS8X8...	.045	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2317	24	M86	HSS8X8...	.042	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2318	24	M87	HSS4X4...	.056	9.7334	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2319	24	M88	HSS4X4...	.548	10.5446	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
2320	24	M89	HSS6X6...	.384	23.3416	.004	23.3416	y	82.2648	216.29...	38.6248	38.6248	3	H1-1a
2321	24	M90	HSS6X6...	.288	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	3	H1-1a
2322	24	M91	HSS6X6...	.067	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
2323	24	M92	HSS6X6...	.064	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.4...	H1-1b
2324	24	M93	HSS6X6...	.445	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.1...	H1-1a
2325	24	M94	HSS6X6...	.322	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.7...	H1-1a
2326	24	M95	HSS6X6...	.561	17.6789	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1a
2327	24	M96	W24X68	.021	0	.010	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2328	24	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	249.375	2.6...	H1-1b
2329	25	M1	HSS6X6...	.120	15.125	.021	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2330	25	M2	HSS6X6...	.080	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2331	25	M3	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2332	25	M4	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2333	25	M5	HSS6X6...	.050	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2334	25	M6	HSS6X6...	.036	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2335	25	M7	HSS6X6...	.087	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2336	25	M8	HSS6X6...	.502	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2337	25	M9	HSS6X6...	.491	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2338	25	M10	HSS6X6...	.277	14.9531	.034	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
2339	25	M11	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2340	25	M12	HSS6X6...	.514	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2341	25	M13	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2342	25	M14	HSS8X8...	.094	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2343	25	M15	HSS8X8...	.290	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2344	25	M16	HSS8X8...	.214	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2345	25	M17	HSS6X6...	.051	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2346	25	M18	HSS6X6...	.066	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2347	25	M19	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2348	25	M20	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2349	25	M21	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2350	25	M22	HSS6X6...	.527	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2351	25	M23	HSS6X6...	.158	14.9531	.032	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2352	25	M24	HSS6X6...	.410	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2353	25	M25	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2354	25	M26	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2355	25	M27	HSS6X6...	.444	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2356	25	M28	HSS6X6...	.459	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2357	25	M29	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2358	25	M30	W18X50	.051	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2359	25	M31	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2360	25	M32	W18X50	.240	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1a
2361	25	M33	W14X22	.163	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2362	25	M34	W14X22	.148	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2363	25	M35	W24X68	.086	10.335	.026	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2364	25	M36	W24X68	.014	10.33	.016	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2365	25	M37	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2366	25	M38	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2367	25	M39	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2368	25	M40	W24X68	.456	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2369	25	M41	W24X68	.355	15.6924	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2370	25	M42	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2371	25	M43	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2372	25	M44	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2373	25	M45	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2374	25	M46	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2375	25	M47	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2376	25	M48	W24X68	.354	15.6924	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2377	25	M49	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2378	25	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2379	25	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2380	25	M52	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2381	25	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2382	25	M54	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2383	25	M55	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2384	25	M56	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2385	25	M57	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2386	25	M58	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2387	25	M59	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2388	25	M60	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2389	25	M61	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2390	25	M62	W24X68	.364	16.0193	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2391	25	M63	W24X68	.086	10.335	.028	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2392	25	M64	W24X68	.086	10.33	.025	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2393	25	M65	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2394	25	M66	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2395	25	M67	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2396	25	M68	W24X68	.456	16.5	.041	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2397	25	M69	W24X68	.364	15.3654	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2398	25	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2399	25	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2400	25	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2401	25	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2402	25	M74	W14X22	.144	15.6924	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2403	25	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2404	25	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2405	25	M77	W14X22	.135	15	.004	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2406	25	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2407	25	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2408	25	M80	W21X50	.028	23.7188	.002	0	y	35.8714	661.5	45.75	82.5679	1.2...	H1-1b
2409	25	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2410	25	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.6...	H1-1b
2411	25	M83	HSS6X6...	.087	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2412	25	M84	HSS6X6...	.490	15.6446	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
2413	25	M85	HSS8X8...	.275	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1a
2414	25	M86	HSS8X8...	.076	16.1555	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2415	25	M87	HSS4X4...	.095	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2416	25	M88	HSS4X4...	.095	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2417	25	M89	HSS6X6...	.053	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
2418	25	M90	HSS6X6...	.044	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.0...	H1-1b
2419	25	M91	HSS6X6...	.098	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2420	25	M92	HSS6X6...	.085	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
2421	25	M93	HSS6X6...	.061	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
2422	25	M94	HSS6X6...	.061	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2423	25	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2424	25	M96	W24X68	.014	0	.016	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2425	25	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	245.6846	2.6...	H1-1b
2426	26	M1	HSS6X6...	.108	14.9531	.014	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2427	26	M2	HSS6X6...	.080	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2428	26	M3	HSS6X6...	.080	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2429	26	M4	HSS6X6...	.080	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2430	26	M5	HSS6X6...	.050	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2431	26	M6	HSS6X6...	.036	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2432	26	M7	HSS6X6...	.135	14.9531	.030	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2433	26	M8	HSS6X6...	.486	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2434	26	M9	HSS6X6...	.510	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2435	26	M10	HSS6X6...	.095	14.9531	.016	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2436	26	M11	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2437	26	M12	HSS6X6...	.514	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2438	26	M13	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2439	26	M14	HSS8X8...	.121	16.3281	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2440	26	M15	HSS8X8...	.232	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2441	26	M16	HSS8X8...	.297	16.3281	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.38	H1-1a
2442	26	M17	HSS6X6...	.051	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2443	26	M18	HSS6X6...	.066	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2444	26	M19	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2445	26	M20	HSS6X6...	.204	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1a
2446	26	M21	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2447	26	M22	HSS6X6...	.351	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2448	26	M23	HSS6X6...	.136	14.9531	.023	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2449	26	M24	HSS6X6...	.543	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2450	26	M25	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2451	26	M26	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2452	26	M27	HSS6X6...	.447	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2453	26	M28	HSS6X6...	.457	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2454	26	M29	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2455	26	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2456	26	M31	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2457	26	M32	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2458	26	M33	W14X22	.138	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2459	26	M34	W14X22	.124	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2460	26	M35	W24X68	.086	10.335	.028	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2461	26	M36	W24X68	.022	10.33	.016	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2462	26	M37	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2463	26	M38	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2464	26	M39	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2465	26	M40	W24X68	.456	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2466	26	M41	W24X68	.354	15.6924	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2467	26	M42	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2468	26	M43	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2469	26	M44	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2470	26	M45	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2471	26	M46	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2472	26	M47	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2473	26	M48	W24X68	.363	16.0193	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2474	26	M49	W14X22	.144	15.6924	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2475	26	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2476	26	M51	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2477	26	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2478	26	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2479	26	M54	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2480	26	M55	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2481	26	M56	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2482	26	M57	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2483	26	M58	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2484	26	M59	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2485	26	M60	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2486	26	M61	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2487	26	M62	W24X68	.354	15.6924	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2488	26	M63	W24X68	.086	10.335	.026	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2489	26	M64	W24X68	.086	10.33	.025	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2490	26	M65	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2491	26	M66	W24X68	.510	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2492	26	M67	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2493	26	M68	W24X68	.456	16.5	.041	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2494	26	M69	W24X68	.361	15.3654	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2495	26	M70	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2496	26	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2497	26	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2498	26	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2499	26	M74	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2500	26	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2501	26	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2502	26	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2503	26	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2504	26	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2505	26	M80	W21X50	.264	16.8438	.007	0	y	35.8714	661.5	45.75	83.6046	1.2...	H1-1b
2506	26	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2507	26	M82	W18X35	.008	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.8...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2508	26	M83	HSS6X6...	.086	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2509	26	M84	HSS6X6...	.081	15.9847	.004	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2510	26	M85	HSS8X8...	.047	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2511	26	M86	HSS8X8...	.043	16.1555	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2512	26	M87	HSS4X4...	.493	8.9223	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
2513	26	M88	HSS4X4...	.037	9.7334	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2514	26	M89	HSS6X6...	.046	11.6708	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.1...	H1-1b
2515	26	M90	HSS6X6...	.040	10.8344	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.1...	H1-1b
2516	26	M91	HSS6X6...	.451	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.1...	H1-1a
2517	26	M92	HSS6X6...	.334	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	1.9...	H1-1a
2518	26	M93	HSS6X6...	.057	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.5...	H1-1b
2519	26	M94	HSS6X6...	.055	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.4...	H1-1b
2520	26	M95	HSS6X6...	.099	18.4476	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2521	26	M96	W24X68	.014	0	.016	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2522	26	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	223.2954	2.3...	H1-1b
2523	27	M1	HSS6X6...	.288	14.9531	.020	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1a
2524	27	M2	HSS6X6...	.080	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2525	27	M3	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2526	27	M4	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2527	27	M5	HSS6X6...	.050	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2528	27	M6	HSS6X6...	.036	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2529	27	M7	HSS6X6...	.177	14.9531	.047	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2530	27	M8	HSS6X6...	.480	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2531	27	M9	HSS6X6...	.516	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2532	27	M10	HSS6X6...	.130	15.125	.033	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2533	27	M11	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2534	27	M12	HSS6X6...	.514	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2535	27	M13	HSS6X6...	.467	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2536	27	M14	HSS8X8...	.092	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2537	27	M15	HSS8X8...	.087	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2538	27	M16	HSS8X8...	.347	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2539	27	M17	HSS6X6...	.051	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2540	27	M18	HSS6X6...	.066	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2541	27	M19	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2542	27	M20	HSS6X6...	.082	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2543	27	M21	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2544	27	M22	HSS6X6...	.517	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2545	27	M23	HSS6X6...	.104	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2546	27	M24	HSS6X6...	.418	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2547	27	M25	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2548	27	M26	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2549	27	M27	HSS6X6...	.456	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2550	27	M28	HSS6X6...	.448	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2551	27	M29	W18X50	.048	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2552	27	M30	W18X50	.054	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2553	27	M31	W18X50	.049	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2554	27	M32	W18X50	.046	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2555	27	M33	W14X22	.140	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2556	27	M34	W14X22	.126	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2557	27	M35	W24X68	.086	10.335	.029	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2558	27	M36	W24X68	.014	10.33	.016	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2559	27	M37	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2560	27	M38	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2561	27	M39	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2562	27	M40	W24X68	.456	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2563	27	M41	W24X68	.360	15.3654	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2564	27	M42	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2565	27	M43	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2566	27	M44	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2567	27	M45	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2568	27	M46	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2569	27	M47	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2570	27	M48	W24X68	.368	16.0193	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2571	27	M49	W14X22	.144	15.6924	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2572	27	M50	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2573	27	M51	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2574	27	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2575	27	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2576	27	M54	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2577	27	M55	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2578	27	M56	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2579	27	M57	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2580	27	M58	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2581	27	M59	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2582	27	M60	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2583	27	M61	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2584	27	M62	W24X68	.355	15.6924	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2585	27	M63	W24X68	.086	10.335	.028	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2586	27	M64	W24X68	.086	10.33	.025	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2587	27	M65	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2588	27	M66	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2589	27	M67	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2590	27	M68	W24X68	.456	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2591	27	M69	W24X68	.354	15.6924	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2592	27	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2593	27	M71	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2594	27	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2595	27	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2596	27	M74	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2597	27	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2598	27	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2599	27	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2600	27	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2601	27	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2602	27	M80	W21X50	.023	16.5	.002	16.5	y	35.8714	661.5	45.75	108.5194	1.6...	H1-1b
2603	27	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2604	27	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	249.375	2.6...	H1-1b
2605	27	M83	HSS6X6...	.433	15.6446	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
2606	27	M84	HSS6X6...	.094	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2607	27	M85	HSS8X8...	.080	17.1191	.004	34.2381	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2608	27	M86	HSS8X8...	.138	16.1555	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2609	27	M87	HSS4X4...	.095	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2610	27	M88	HSS4X4...	.095	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2611	27	M89	HSS6X6...	.072	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
2612	27	M90	HSS6X6...	.058	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2613	27	M91	HSS6X6...	.106	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2614	27	M92	HSS6X6...	.091	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
2615	27	M93	HSS6X6...	.053	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b
2616	27	M94	HSS6X6...	.055	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2617	27	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2618	27	M96	W24X68	.014	0	.016	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2619	27	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	244.4619	2.6...	H1-1b
2620	28	M1	HSS6X6...	.113	14.9531	.012	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2621	28	M2	HSS6X6...	.080	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2622	28	M3	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2623	28	M4	HSS6X6...	.080	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2624	28	M5	HSS6X6...	.050	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2625	28	M6	HSS6X6...	.036	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2626	28	M7	HSS6X6...	.070	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2627	28	M8	HSS6X6...	.496	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2628	28	M9	HSS6X6...	.498	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2629	28	M10	HSS6X6...	.104	14.9531	.015	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2630	28	M11	HSS6X6...	.467	0	.000	0	z	55.1805	216.29...	38.6248	38.6248	1	H1-1a
2631	28	M12	HSS6X6...	.514	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2632	28	M13	HSS6X6...	.467	0	.000	0	z	55.1805	216.29...	38.6248	38.6248	1	H1-1a
2633	28	M14	HSS8X8...	.114	16.625	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2634	28	M15	HSS8X8...	.231	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
2635	28	M16	HSS8X8...	.105	16.3281	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2636	28	M17	HSS6X6...	.051	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2637	28	M18	HSS6X6...	.066	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2638	28	M19	HSS6X6...	.080	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2639	28	M20	HSS6X6...	.061	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2640	28	M21	HSS6X6...	.080	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2641	28	M22	HSS6X6...	.693	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2642	28	M23	HSS6X6...	.083	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2643	28	M24	HSS6X6...	.284	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2644	28	M25	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2645	28	M26	HSS6X6...	.456	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2646	28	M27	HSS6X6...	.454	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2647	28	M28	HSS6X6...	.450	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2648	28	M29	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2649	28	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2650	28	M31	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2651	28	M32	W18X50	.044	14.5	.004	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2652	28	M33	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2653	28	M34	W14X22	.121	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2654	28	M35	W24X68	.086	10.335	.025	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2655	28	M36	W24X68	.014	10.33	.016	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2656	28	M37	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2657	28	M38	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2658	28	M39	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2659	28	M40	W24X68	.456	16.5	.040	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2660	28	M41	W24X68	.358	15.3654	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2661	28	M42	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2662	28	M43	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2663	28	M44	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2664	28	M45	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2665	28	M46	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2666	28	M47	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2667	28	M48	W24X68	.355	16.0193	.034	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2668	28	M49	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2669	28	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2670	28	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2671	28	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2672	28	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2673	28	M54	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2674	28	M55	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2675	28	M56	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2676	28	M57	W24X94	.478	16.5	.055	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2677	28	M58	W24X94	.478	16.5	.054	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2678	28	M59	W21X44	.559	10.33	.063	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2679	28	M60	W21X44	.560	10.335	.063	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2680	28	M61	W24X68	.327	15	.036	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2681	28	M62	W24X68	.358	16.0193	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2682	28	M63	W24X68	.086	10.335	.026	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2683	28	M64	W24X68	.086	10.33	.025	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2684	28	M65	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2685	28	M66	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2686	28	M67	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2687	28	M68	W24X68	.456	16.5	.039	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2688	28	M69	W24X68	.354	15.6924	.035	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2689	28	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2690	28	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2691	28	M72	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2692	28	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2693	28	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2694	28	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2695	28	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2696	28	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2697	28	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2698	28	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2699	28	M80	W21X50	.257	16.5	.008	16.5	y	35.8714	661.5	45.75	92.0078	1.3...	H1-1b
2700	28	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2701	28	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	235.7177	2.5...	H1-1b
2702	28	M83	HSS6X6...	.057	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2703	28	M84	HSS6X6...	.058	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2704	28	M85	HSS8X8...	.045	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2705	28	M86	HSS8X8...	.042	16.1555	.005	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2706	28	M87	HSS4X4...	.037	9.7334	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2707	28	M88	HSS4X4...	.493	10.5446	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
2708	28	M89	HSS6X6...	.331	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.8...	H1-1a
2709	28	M90	HSS6X6...	.249	0	.004	0	y	103.5321	216.29...	38.6248	38.6248	2.9...	H1-1a
2710	28	M91	HSS6X6...	.040	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	1.7...	H1-1b
2711	28	M92	HSS6X6...	.039	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.4...	H1-1b
2712	28	M93	HSS6X6...	.377	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1a
2713	28	M94	HSS6X6...	.286	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.9...	H1-1a
2714	28	M95	HSS6X6...	.436	17.6789	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1a
2715	28	M96	W24X68	.022	0	.016	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2716	28	M97	W18X35	.008	0	.003	0	y	88.2729	463.5	30.225	249.375	2.8...	H1-1b
2717	29	M1	HSS6X6...	.103	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2718	29	M2	HSS6X6...	.067	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2719	29	M3	HSS6X6...	.067	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2720	29	M4	HSS6X6...	.067	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2721	29	M5	HSS6X6...	.042	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2722	29	M6	HSS6X6...	.030	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2723	29	M7	HSS6X6...	.058	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2724	29	M8	HSS6X6...	.386	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2725	29	M9	HSS6X6...	.394	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2726	29	M10	HSS6X6...	.079	14.9531	.010	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2727	29	M11	HSS6X6...	.363	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2728	29	M12	HSS6X6...	.402	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2729	29	M13	HSS6X6...	.354	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2730	29	M14	HSS8X8...	.074	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2731	29	M15	HSS8X8...	.100	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2732	29	M16	HSS8X8...	.085	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2733	29	M17	HSS6X6...	.041	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2734	29	M18	HSS6X6...	.052	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2735	29	M19	HSS6X6...	.064	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2736	29	M20	HSS6X6...	.065	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2737	29	M21	HSS6X6...	.064	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2738	29	M22	HSS6X6...	.413	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2739	29	M23	HSS6X6...	.124	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2740	29	M24	HSS6X6...	.325	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2741	29	M25	HSS6X6...	.349	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2742	29	M26	HSS6X6...	.349	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2743	29	M27	HSS6X6...	.353	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2744	29	M28	HSS6X6...	.360	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2745	29	M29	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2746	29	M30	W18X50	.050	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2747	29	M31	W18X50	.045	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2748	29	M32	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2749	29	M33	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2750	29	M34	W14X22	.121	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2751	29	M35	W24X68	.102	10.335	.020	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2752	29	M36	W24X68	.046	10.33	.012	10.33	y	618.0979	904.5	91.875	663.75	2.27	H1-1b
2753	29	M37	W24X68	.446	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2754	29	M38	W24X68	.446	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2755	29	M39	W24X68	.446	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2756	29	M40	W24X68	.446	16.5	.032	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2757	29	M41	W24X68	.278	15.6924	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2758	29	M42	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2759	29	M43	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2760	29	M44	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2761	29	M45	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2762	29	M46	W21X44	.429	10.33	.048	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2763	29	M47	W21X44	.429	10.335	.048	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2764	29	M48	W24X68	.282	16.0193	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2765	29	M49	W14X22	.204	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2766	29	M50	W14X22	.222	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2767	29	M51	W14X22	.271	5.2308	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2768	29	M52	W14X22	.271	5.2308	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2769	29	M53	W14X22	.271	5.2308	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2770	29	M54	W24X68	.257	15	.028	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2771	29	M55	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2772	29	M56	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2773	29	M57	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2774	29	M58	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2775	29	M59	W21X44	.429	10.33	.048	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2776	29	M60	W21X44	.429	10.335	.048	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2777	29	M61	W24X68	.257	15	.028	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2778	29	M62	W24X68	.281	16.0193	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2779	29	M63	W24X68	.067	10.335	.020	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2780	29	M64	W24X68	.067	10.33	.019	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2781	29	M65	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2782	29	M66	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2783	29	M67	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2784	29	M68	W24X68	.358	16.5	.032	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2785	29	M69	W24X68	.285	15.3654	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2786	29	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2787	29	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2788	29	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2789	29	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2790	29	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2791	29	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2792	29	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2793	29	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2794	29	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2795	29	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2796	29	M80	W21X50	.035	22.6875	.002	0	y	35.8714	661.5	45.75	77.2076	1.1...	H1-1b
2797	29	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2798	29	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	237.1002	2.5...	H1-1b
2799	29	M83	HSS6X6...	.057	16.3248	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2800	29	M84	HSS6X6...	.085	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2801	29	M85	HSS8X8...	.076	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2802	29	M86	HSS8X8...	.051	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2803	29	M87	HSS4X4...	.080	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2804	29	M88	HSS4X4...	.080	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2805	29	M89	HSS6X6...	.050	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
2806	29	M90	HSS6X6...	.040	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.8...	H1-1b
2807	29	M91	HSS6X6...	.084	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2808	29	M92	HSS6X6...	.072	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
2809	29	M93	HSS6X6...	.052	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
2810	29	M94	HSS6X6...	.050	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2811	29	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2812	29	M96	W24X68	.046	0	.012	0	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
2813	29	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	233.2819	2.4...	H1-1b
2814	30	M1	HSS6X6...	.068	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2815	30	M2	HSS6X6...	.064	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2816	30	M3	HSS6X6...	.064	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2817	30	M4	HSS6X6...	.064	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2818	30	M5	HSS6X6...	.040	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2819	30	M6	HSS6X6...	.029	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2820	30	M7	HSS6X6...	.085	14.9531	.014	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2821	30	M8	HSS6X6...	.386	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2822	30	M9	HSS6X6...	.398	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
2823	30	M10	HSS6X6...	.056	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2824	30	M11	HSS6X6...	.363	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2825	30	M12	HSS6X6...	.402	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
2826	30	M13	HSS6X6...	.363	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
2827	30	M14	HSS8X8...	.077	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2828	30	M15	HSS8X8...	.092	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2829	30	M16	HSS8X8...	.095	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2830	30	M17	HSS6X6...	.041	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2831	30	M18	HSS6X6...	.052	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2832	30	M19	HSS6X6...	.064	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2833	30	M20	HSS6X6...	.067	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2834	30	M21	HSS6X6...	.064	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2835	30	M22	HSS6X6...	.392	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
2836	30	M23	HSS6X6...	.087	14.9531	.010	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2837	30	M24	HSS6X6...	.341	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
2838	30	M25	HSS6X6...	.358	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2839	30	M26	HSS6X6...	.358	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
2840	30	M27	HSS6X6...	.357	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2841	30	M28	HSS6X6...	.360	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
2842	30	M29	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2843	30	M30	W18X50	.049	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2844	30	M31	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2845	30	M32	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2846	30	M33	W14X22	.136	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2847	30	M34	W14X22	.122	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2848	30	M35	W24X68	.070	10.335	.021	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2849	30	M36	W24X68	.012	10.33	.012	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2850	30	M37	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2851	30	M38	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2852	30	M39	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2853	30	M40	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2854	30	M41	W24X68	.278	15.6924	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2855	30	M42	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2856	30	M43	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2857	30	M44	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2858	30	M45	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2859	30	M46	W21X44	.429	10.33	.048	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2860	30	M47	W21X44	.429	10.335	.048	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2861	30	M48	W24X68	.383	16.0193	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2862	30	M49	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2863	30	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2864	30	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2865	30	M52	W14X22	.144	15.3654	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2866	30	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2867	30	M54	W24X68	.257	15	.028	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2868	30	M55	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2869	30	M56	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2870	30	M57	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2871	30	M58	W24X94	.371	16.5	.042	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2872	30	M59	W21X44	.429	10.33	.048	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2873	30	M60	W21X44	.429	10.335	.048	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2874	30	M61	W24X68	.349	15	.028	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
2875	30	M62	W24X68	.378	15.6924	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2876	30	M63	W24X68	.070	10.335	.019	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
2877	30	M64	W24X68	.070	10.33	.019	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
2878	30	M65	W24X68	.363	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2879	30	M66	W24X68	.363	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2880	30	M67	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2881	30	M68	W24X68	.358	16.5	.031	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
2882	30	M69	W24X68	.281	15.3654	.027	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
2883	30	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2884	30	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2885	30	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2886	30	M73	W14X22	.144	16.0193	.004	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2887	30	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2888	30	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2889	30	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2890	30	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2891	30	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2892	30	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2893	30	M80	W21X50	.050	20.9688	.003	0	y	35.8714	661.5	45.75	73.5489	1.1...	H1-1b
2894	30	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2895	30	M82	W18X35	.007	16.51	.003	16.51	y	88.0592	463.5	30.225	238.8686	2.5...	H1-1b
2896	30	M83	HSS6X6...	.067	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2897	30	M84	HSS6X6...	.064	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2898	30	M85	HSS8X8...	.046	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2899	30	M86	HSS8X8...	.042	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2900	30	M87	HSS4X4...	.096	9.3279	.002	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2901	30	M88	HSS4X4...	.062	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2902	30	M89	HSS6X6...	.042	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.5...	H1-1b
2903	30	M90	HSS6X6...	.035	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.7...	H1-1b
2904	30	M91	HSS6X6...	.101	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
2905	30	M92	HSS6X6...	.083	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
2906	30	M93	HSS6X6...	.034	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.7...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2907	30	M94	HSS6X6...	.038	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
2908	30	M95	HSS6X6...	.073	18.4476	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
2909	30	M96	W24X68	.011	0	.012	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
2910	30	M97	W18X35	.007	0	.003	0	y	88.2729	463.5	30.225	230.6524	2.4...	H1-1b
2911	31	M1	HSS6X6...	.063	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2912	31	M2	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2913	31	M3	HSS6X6...	.014	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2914	31	M4	HSS6X6...	.014	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2915	31	M5	HSS6X6...	.010	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2916	31	M6	HSS6X6...	.007	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2917	31	M7	HSS6X6...	.033	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2918	31	M8	HSS6X6...	.027	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
2919	31	M9	HSS6X6...	.027	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
2920	31	M10	HSS6X6...	.045	14.9531	.013	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2921	31	M11	HSS6X6...	.021	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
2922	31	M12	HSS6X6...	.026	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
2923	31	M13	HSS6X6...	.015	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
2924	31	M14	HSS8X8...	.014	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
2925	31	M15	HSS8X8...	.024	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
2926	31	M16	HSS8X8...	.015	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.38	H1-1b
2927	31	M17	HSS6X6...	.007	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2928	31	M18	HSS6X6...	.008	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2929	31	M19	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2930	31	M20	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2931	31	M21	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
2932	31	M22	HSS6X6...	.030	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
2933	31	M23	HSS6X6...	.067	14.9531	.023	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
2934	31	M24	HSS6X6...	.024	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
2935	31	M25	HSS6X6...	.019	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
2936	31	M26	HSS6X6...	.019	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
2937	31	M27	HSS6X6...	.027	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
2938	31	M28	HSS6X6...	.030	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
2939	31	M29	W18X50	.027	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2940	31	M30	W18X50	.031	15	.002	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
2941	31	M31	W18X50	.027	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2942	31	M32	W18X50	.031	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
2943	31	M33	W14X22	.111	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2944	31	M34	W14X22	.100	14.5	.002	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
2945	31	M35	W24X68	.056	10.335	.004	20.67	z	258.5051	904.5	91.875	392.4941	1.1...	H1-1b
2946	31	M36	W24X68	.049	10.33	.003	0	z	618.0979	904.5	91.875	663.75	2.9...	H1-1b
2947	31	M37	W24X68	.167	16.5	.005	0	z	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2948	31	M38	W24X68	.167	16.5	.005	0	z	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2949	31	M39	W24X68	.167	16.5	.005	0	z	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2950	31	M40	W24X68	.167	16.5	.006	0	z	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2951	31	M41	W24X68	.038	15.6924	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
2952	31	M42	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2953	31	M43	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2954	31	M44	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2955	31	M45	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2956	31	M46	W21X44	.037	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2957	31	M47	W21X44	.037	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2958	31	M48	W24X68	.038	16.0193	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
2959	31	M49	W14X22	.167	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2960	31	M50	W14X22	.285	15.0385	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2961	31	M51	W14X22	.333	15.0385	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2962	31	M52	W14X22	.333	15.0385	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a
2963	31	M53	W14X22	.333	15.0385	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1a

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
2964	31	M54	W24X68	.035	15	.004	30	y	122.7178	904.5	91.875	217.0323	1.1...	H1-1b
2965	31	M55	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2966	31	M56	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2967	31	M57	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2968	31	M58	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
2969	31	M59	W21X44	.037	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
2970	31	M60	W21X44	.037	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
2971	31	M61	W24X68	.035	15	.004	30	y	122.7178	904.5	91.875	217.0323	1.1...	H1-1b
2972	31	M62	W24X68	.042	16.0193	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
2973	31	M63	W24X68	.009	10.335	.004	20.67	y	258.5051	904.5	91.875	392.4941	1.1...	H1-1b
2974	31	M64	W24X68	.009	10.33	.003	20.66	y	258.7554	904.5	91.875	392.8129	1.1...	H1-1b
2975	31	M65	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2976	31	M66	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2977	31	M67	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2978	31	M68	W24X68	.048	16.5	.006	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
2979	31	M69	W24X68	.045	15.3654	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
2980	31	M70	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2981	31	M71	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2982	31	M72	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2983	31	M73	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2984	31	M74	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
2985	31	M75	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2986	31	M76	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2987	31	M77	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2988	31	M78	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2989	31	M79	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
2990	31	M80	W21X50	.055	16.8438	.002	0	y	35.8714	661.5	45.75	76.3379	1.1...	H1-1b
2991	31	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
2992	31	M82	W18X35	.004	16.51	.002	16.51	y	88.0592	463.5	30.225	193.9088	2.0...	H1-1b
2993	31	M83	HSS6X6...	.037	16.3248	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2994	31	M84	HSS6X6...	.066	15.9847	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
2995	31	M85	HSS8X8...	.067	16.7624	.003	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
2996	31	M86	HSS8X8...	.037	16.1555	.003	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
2997	31	M87	HSS4X4...	.021	9.3279	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2998	31	M88	HSS4X4...	.021	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
2999	31	M89	HSS6X6...	.013	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
3000	31	M90	HSS6X6...	.010	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	1.2...	H1-1b
3001	31	M91	HSS6X6...	.023	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
3002	31	M92	HSS6X6...	.018	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
3003	31	M93	HSS6X6...	.019	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.0...	H1-1b
3004	31	M94	HSS6X6...	.015	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
3005	31	M95	HSS6X6...	.042	18.0632	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3006	31	M96	W24X68	.049	0	.003	10.33	z	618.0979	904.5	91.875	663.75	2.9...	H1-1b
3007	31	M97	W18X35	.004	0	.002	0	y	88.2729	463.5	30.225	192.9935	2.0...	H1-1b
3008	32	M1	HSS6X6...	.016	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3009	32	M2	HSS6X6...	.010	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3010	32	M3	HSS6X6...	.010	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
3011	32	M4	HSS6X6...	.010	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3012	32	M5	HSS6X6...	.007	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3013	32	M6	HSS6X6...	.005	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3014	32	M7	HSS6X6...	.018	14.9531	.004	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3015	32	M8	HSS6X6...	.027	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3016	32	M9	HSS6X6...	.030	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3017	32	M10	HSS6X6...	.016	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3018	32	M11	HSS6X6...	.021	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3019	32	M12	HSS6X6...	.026	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
3020	32	M13	HSS6X6...	.021	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3021	32	M14	HSS8X8...	.018	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3022	32	M15	HSS8X8...	.014	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3023	32	M16	HSS8X8...	.025	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3024	32	M17	HSS6X6...	.007	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3025	32	M18	HSS6X6...	.008	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3026	32	M19	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3027	32	M20	HSS6X6...	.013	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3028	32	M21	HSS6X6...	.010	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3029	32	M22	HSS6X6...	.016	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
3030	32	M23	HSS6X6...	.018	14.9531	.004	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3031	32	M24	HSS6X6...	.034	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
3032	32	M25	HSS6X6...	.024	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3033	32	M26	HSS6X6...	.024	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3034	32	M27	HSS6X6...	.028	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3035	32	M28	HSS6X6...	.029	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3036	32	M29	W18X50	.026	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3037	32	M30	W18X50	.030	15	.002	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
3038	32	M31	W18X50	.026	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3039	32	M32	W18X50	.026	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3040	32	M33	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3041	32	M34	W14X22	.073	14.5	.002	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3042	32	M35	W24X68	.012	10.335	.003	20.67	y	258.5051	904.5	91.875	392.4941	1.1...	H1-1b
3043	32	M36	W24X68	.003	10.33	.002	10.33	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
3044	32	M37	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3045	32	M38	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3046	32	M39	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3047	32	M40	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3048	32	M41	W24X68	.038	15.6924	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
3049	32	M42	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3050	32	M43	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3051	32	M44	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3052	32	M45	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3053	32	M46	W21X44	.037	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3054	32	M47	W21X44	.037	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3055	32	M48	W24X68	.173	15.6924	.006	0	z	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
3056	32	M49	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3057	32	M50	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3058	32	M51	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3059	32	M52	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3060	32	M53	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3061	32	M54	W24X68	.035	15	.004	30	y	122.7178	904.5	91.875	217.0323	1.1...	H1-1b
3062	32	M55	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3063	32	M56	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3064	32	M57	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3065	32	M58	W24X94	.042	16.5	.005	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3066	32	M59	W21X44	.037	10.33	.004	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3067	32	M60	W21X44	.037	10.335	.004	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3068	32	M61	W24X68	.157	15	.005	0	z	122.7178	904.5	91.875	217.0323	1.1...	H1-1b
3069	32	M62	W24X68	.172	15.6924	.006	0	z	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
3070	32	M63	W24X68	.012	10.335	.003	20.67	y	258.5051	904.5	91.875	392.4941	1.1...	H1-1b
3071	32	M64	W24X68	.012	10.33	.003	20.66	y	258.7554	904.5	91.875	392.8129	1.1...	H1-1b
3072	32	M65	W24X68	.056	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3073	32	M66	W24X68	.056	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3074	32	M67	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3075	32	M68	W24X68	.048	16.5	.004	33	y	101.4197	904.5	91.875	188.558	1.1...	H1-1b
3076	32	M69	W24X68	.039	15.3654	.004	31.3847	y	112.1279	904.5	91.875	202.9373	1.1...	H1-1b
3077	32	M70	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3078	32	M71	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3079	32	M72	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3080	32	M73	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3081	32	M74	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3082	32	M75	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3083	32	M76	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3084	32	M77	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3085	32	M78	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3086	32	M79	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3087	32	M80	W21X50	.077	16.8438	.003	0	y	35.8714	661.5	45.75	79.4668	1.1...	H1-1b
3088	32	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
3089	32	M82	W18X35	.004	16.51	.002	16.51	y	88.0592	463.5	30.225	199.5457	2.1...	H1-1b
3090	32	M83	HSS6X6...	.039	15.9847	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3091	32	M84	HSS6X6...	.038	15.9847	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3092	32	M85	HSS8X8...	.027	16.7624	.003	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
3093	32	M86	HSS8X8...	.025	16.1555	.003	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
3094	32	M87	HSS4X4...	.043	9.3279	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3095	32	M88	HSS4X4...	.014	9.7334	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3096	32	M89	HSS6X6...	.011	9.9688	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.2...	H1-1b
3097	32	M90	HSS6X6...	.011	11.6841	.002	0	y	103.5321	216.29...	38.6248	38.6248	1.2...	H1-1b
3098	32	M91	HSS6X6...	.045	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.1...	H1-1b
3099	32	M92	HSS6X6...	.032	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	2.0...	H1-1b
3100	32	M93	HSS6X6...	.019	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.9...	H1-1b
3101	32	M94	HSS6X6...	.018	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
3102	32	M95	HSS6X6...	.046	18.4476	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3103	32	M96	W24X68	.002	0	.002	0	y	618.0979	904.5	91.875	663.75	2.2...	H1-1b
3104	32	M97	W18X35	.004	0	.001	0	y	88.2729	463.5	30.225	178.3586	1.8...	H1-1b
3105	33	M1	HSS6X6...	.087	15.125	.027	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3106	33	M2	HSS6X6...	.032	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3107	33	M3	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3108	33	M4	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3109	33	M5	HSS6X6...	.020	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3110	33	M6	HSS6X6...	.015	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3111	33	M7	HSS6X6...	.091	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3112	33	M8	HSS6X6...	.208	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3113	33	M9	HSS6X6...	.091	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3114	33	M10	HSS6X6...	.185	14.9531	.045	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3115	33	M11	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3116	33	M12	HSS6X6...	.201	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3117	33	M13	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3118	33	M14	HSS8X8...	.041	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3119	33	M15	HSS8X8...	.087	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3120	33	M16	HSS8X8...	.050	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3121	33	M17	HSS6X6...	.021	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3122	33	M18	HSS6X6...	.026	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3123	33	M19	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3124	33	M20	HSS6X6...	.033	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3125	33	M21	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3126	33	M22	HSS6X6...	.212	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
3127	33	M23	HSS6X6...	.113	14.9531	.033	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3128	33	M24	HSS6X6...	.080	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.5...	H1-1b
3129	33	M25	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3130	33	M26	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3131	33	M27	HSS6X6...	.086	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3132	33	M28	HSS6X6...	.095	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3133	33	M29	W18X50	.028	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3134	33	M30	W18X50	.031	15	.002	30	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3135	33	M31	W18X50	.028	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3136	33	M32	W18X50	.305	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1a
3137	33	M33	W14X22	.161	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3138	33	M34	W14X22	.147	14.5	.002	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3139	33	M35	W24X68	.034	10.335	.013	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3140	33	M36	W24X68	.005	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3141	33	M37	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3142	33	M38	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3143	33	M39	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3144	33	M40	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3145	33	M41	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3146	33	M42	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3147	33	M43	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3148	33	M44	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3149	33	M45	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3150	33	M46	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3151	33	M47	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3152	33	M48	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3153	33	M49	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3154	33	M50	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3155	33	M51	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3156	33	M52	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3157	33	M53	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3158	33	M54	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3159	33	M55	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3160	33	M56	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3161	33	M57	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3162	33	M58	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3163	33	M59	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3164	33	M60	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3165	33	M61	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3166	33	M62	W24X68	.153	16.0193	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3167	33	M63	W24X68	.034	10.335	.014	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3168	33	M64	W24X68	.034	10.33	.010	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
3169	33	M65	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3170	33	M66	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3171	33	M67	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3172	33	M68	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3173	33	M69	W24X68	.149	15.3654	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3174	33	M70	W14X22	.086	15.6924	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3175	33	M71	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3176	33	M72	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3177	33	M73	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3178	33	M74	W14X22	.086	15.6924	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3179	33	M75	W14X22	.081	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3180	33	M76	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3181	33	M77	W14X22	.081	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3182	33	M78	W14X22	.081	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3183	33	M79	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3184	33	M80	W21X50	.045	18.2188	.002	0	y	35.8714	661.5	45.75	73.9929	1.1...	H1-1b
3185	33	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
3186	33	M82	W18X35	.004	16.51	.002	16.51	y	88.0592	463.5	30.225	228.182	2.4...	H1-1b
3187	33	M83	HSS6X6...	.077	16.3248	.003	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3188	33	M84	HSS6X6...	.603	15.6446	.003	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
3189	33	M85	HSS8X8...	.335	16.7624	.003	34.2381	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1a
3190	33	M86	HSS8X8...	.071	16.1555	.003	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
3191	33	M87	HSS4X4...	.042	9.3279	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3192	33	M88	HSS4X4...	.042	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3193	33	M89	HSS6X6...	.018	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
3194	33	M90	HSS6X6...	.015	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	1.5...	H1-1b
3195	33	M91	HSS6X6...	.041	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
3196	33	M92	HSS6X6...	.035	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	2.2...	H1-1b
3197	33	M93	HSS6X6...	.032	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
3198	33	M94	HSS6X6...	.029	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
3199	33	M95	HSS6X6...	.042	18.0632	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3200	33	M96	W24X68	.005	0	.006	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3201	33	M97	W18X35	.004	0	.002	0	y	88.2729	463.5	30.225	226.6936	2.4...	H1-1b
3202	34	M1	HSS6X6...	.069	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3203	34	M2	HSS6X6...	.032	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3204	34	M3	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3205	34	M4	HSS6X6...	.032	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3206	34	M5	HSS6X6...	.020	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3207	34	M6	HSS6X6...	.015	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3208	34	M7	HSS6X6...	.085	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3209	34	M8	HSS6X6...	.095	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3210	34	M9	HSS6X6...	.208	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3211	34	M10	HSS6X6...	.068	14.9531	.021	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3212	34	M11	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3213	34	M12	HSS6X6...	.201	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3214	34	M13	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3215	34	M14	HSS8X8...	.077	16.3281	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3216	34	M15	HSS8X8...	.047	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3217	34	M16	HSS8X8...	.119	16.3281	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3218	34	M17	HSS6X6...	.021	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3219	34	M18	HSS6X6...	.026	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3220	34	M19	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3221	34	M20	HSS6X6...	.060	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3222	34	M21	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3223	34	M22	HSS6X6...	.004	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
3224	34	M23	HSS6X6...	.084	14.9531	.021	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3225	34	M24	HSS6X6...	.338	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1a
3226	34	M25	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3227	34	M26	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3228	34	M27	HSS6X6...	.089	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3229	34	M28	HSS6X6...	.095	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3230	34	M29	W18X50	.027	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3231	34	M30	W18X50	.030	15	.002	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
3232	34	M31	W18X50	.027	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3233	34	M32	W18X50	.028	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3234	34	M33	W14X22	.084	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3235	34	M34	W14X22	.075	14.5	.002	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3236	34	M35	W24X68	.034	10.335	.012	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3237	34	M36	W24X68	.017	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3238	34	M37	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3239	34	M38	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3240	34	M39	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3241	34	M40	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3242	34	M41	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3243	34	M42	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3244	34	M43	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3245	34	M44	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3246	34	M45	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3247	34	M46	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3248	34	M47	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3249	34	M48	W24X68	.146	16.0193	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3250	34	M49	W14X22	.086	15.6924	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3251	34	M50	W14X22	.086	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3252	34	M51	W14X22	.086	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3253	34	M52	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3254	34	M53	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3255	34	M54	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3256	34	M55	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3257	34	M56	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3258	34	M57	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3259	34	M58	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3260	34	M59	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3261	34	M60	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3262	34	M61	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3263	34	M62	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3264	34	M63	W24X68	.034	10.335	.012	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3265	34	M64	W24X68	.034	10.33	.010	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
3266	34	M65	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3267	34	M66	W24X68	.251	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3268	34	M67	W24X68	.179	16.5	.016	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3269	34	M68	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3270	34	M69	W24X68	.145	15.3654	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3271	34	M70	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3272	34	M71	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3273	34	M72	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3274	34	M73	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3275	34	M74	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3276	34	M75	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3277	34	M76	W14X22	.081	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3278	34	M77	W14X22	.081	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3279	34	M78	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3280	34	M79	W14X22	.081	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3281	34	M80	W21X50	.364	16.8438	.009	33	y	35.8714	661.5	45.75	85.9632	1.2...	H1-1b
3282	34	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
3283	34	M82	W18X35	.005	16.51	.002	16.51	y	88.0592	463.5	30.225	249.375	2.7...	H1-1b
3284	34	M83	HSS6X6...	.064	15.9847	.003	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3285	34	M84	HSS6X6...	.060	15.9847	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3286	34	M85	HSS8X8...	.028	16.7624	.003	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
3287	34	M86	HSS8X8...	.026	16.1555	.004	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
3288	34	M87	HSS4X4...	.501	8.9223	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
3289	34	M88	HSS4X4...	.053	9.7334	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3290	34	M89	HSS6X6...	.067	14.5885	.002	0	y	82.2648	216.29...	38.6248	38.6248	1.1...	H1-1b
3291	34	M90	HSS6X6...	.061	8.2851	.002	20.3941	y	103.5321	216.29...	38.6248	38.6248	1.1...	H1-1b
3292	34	M91	HSS6X6...	.440	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.3...	H1-1a
3293	34	M92	HSS6X6...	.308	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	1.2...	H1-1a
3294	34	M93	HSS6X6...	.076	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.3...	H1-1b
3295	34	M94	HSS6X6...	.074	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.6...	H1-1b
3296	34	M95	HSS6X6...	.080	18.4476	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3297	34	M96	W24X68	.005	0	.006	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3298	34	M97	W18X35	.004	0	.001	0	y	88.2729	463.5	30.225	141.6246	1.5...	H1-1b
3299	35	M1	HSS6X6...	.155	14.9531	.027	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3300	35	M2	HSS6X6...	.032	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3301	35	M3	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3302	35	M4	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3303	35	M5	HSS6X6...	.020	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3304	35	M6	HSS6X6...	.015	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3305	35	M7	HSS6X6...	.141	14.9531	.047	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3306	35	M8	HSS6X6...	.090	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3307	35	M9	HSS6X6...	.217	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3308	35	M10	HSS6X6...	.120	14.9531	.044	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3309	35	M11	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3310	35	M12	HSS6X6...	.201	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3311	35	M13	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3312	35	M14	HSS8X8...	.036	0	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3313	35	M15	HSS8X8...	.008	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3314	35	M16	HSS8X8...	.262	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
3315	35	M17	HSS6X6...	.021	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3316	35	M18	HSS6X6...	.026	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3317	35	M19	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3318	35	M20	HSS6X6...	.033	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3319	35	M21	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3320	35	M22	HSS6X6...	.099	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
3321	35	M23	HSS6X6...	.088	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3322	35	M24	HSS6X6...	.085	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
3323	35	M25	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3324	35	M26	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3325	35	M27	HSS6X6...	.095	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3326	35	M28	HSS6X6...	.087	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3327	35	M29	W18X50	.037	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3328	35	M30	W18X50	.041	15	.002	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
3329	35	M31	W18X50	.037	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3330	35	M32	W18X50	.029	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3331	35	M33	W14X22	.086	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3332	35	M34	W14X22	.078	14.5	.002	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3333	35	M35	W24X68	.034	10.335	.014	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3334	35	M36	W24X68	.005	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3335	35	M37	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3336	35	M38	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3337	35	M39	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3338	35	M40	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3339	35	M41	W24X68	.147	15.3654	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3340	35	M42	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3341	35	M43	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3342	35	M44	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3343	35	M45	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3344	35	M46	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3345	35	M47	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3346	35	M48	W24X68	.153	16.0193	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3347	35	M49	W14X22	.086	15.6924	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3348	35	M50	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3349	35	M51	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3350	35	M52	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3351	35	M53	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3352	35	M54	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3353	35	M55	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3354	35	M56	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3355	35	M57	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3356	35	M58	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3357	35	M59	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3358	35	M60	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3359	35	M61	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3360	35	M62	W24X68	.141	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3361	35	M63	W24X68	.034	10.335	.014	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3362	35	M64	W24X68	.034	10.33	.010	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3363	35	M65	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3364	35	M66	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3365	35	M67	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3366	35	M68	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3367	35	M69	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3368	35	M70	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3369	35	M71	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3370	35	M72	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3371	35	M73	W14X22	.086	16.0193	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3372	35	M74	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3373	35	M75	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3374	35	M76	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3375	35	M77	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3376	35	M78	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3377	35	M79	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3378	35	M80	W21X50	.013	16.5	.001	16.5	y	35.8714	661.5	45.75	102.8243	1.5...	H1-1b
3379	35	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
3380	35	M82	W18X35	.004	16.51	.002	16.51	y	88.0592	463.5	30.225	230.2517	2.4...	H1-1b
3381	35	M83	HSS6X6...	.521	15.6446	.003	0	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1a
3382	35	M84	HSS6X6...	.085	16.3248	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3383	35	M85	HSS8X8...	.074	17.1191	.003	34.2381	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
3384	35	M86	HSS8X8...	.280	15.8189	.003	0	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1a
3385	35	M87	HSS4X4...	.042	9.3279	.001	19.4669	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3386	35	M88	HSS4X4...	.042	10.139	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3387	35	M89	HSS6X6...	.043	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.0...	H1-1b
3388	35	M90	HSS6X6...	.034	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
3389	35	M91	HSS6X6...	.052	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
3390	35	M92	HSS6X6...	.043	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	2.1...	H1-1b
3391	35	M93	HSS6X6...	.021	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.8...	H1-1b
3392	35	M94	HSS6X6...	.022	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.2...	H1-1b
3393	35	M95	HSS6X6...	.042	18.0632	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3394	35	M96	W24X68	.005	0	.006	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3395	35	M97	W18X35	.004	0	.002	0	y	88.2729	463.5	30.225	223.6509	2.3...	H1-1b
3396	36	M1	HSS6X6...	.079	14.9531	.017	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3397	36	M2	HSS6X6...	.032	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3398	36	M3	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3399	36	M4	HSS6X6...	.032	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3400	36	M5	HSS6X6...	.020	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3401	36	M6	HSS6X6...	.015	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3402	36	M7	HSS6X6...	.050	14.9531	.011	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3403	36	M8	HSS6X6...	.201	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3404	36	M9	HSS6X6...	.097	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3405	36	M10	HSS6X6...	.079	14.9531	.020	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3406	36	M11	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3407	36	M12	HSS6X6...	.201	0	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3408	36	M13	HSS6X6...	.090	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3409	36	M14	HSS8X8...	.067	16.625	.003	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3410	36	M15	HSS8X8...	.047	16.3281	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3411	36	M16	HSS8X8...	.039	16.625	.002	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3412	36	M17	HSS6X6...	.021	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3413	36	M18	HSS6X6...	.026	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3414	36	M19	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3415	36	M20	HSS6X6...	.005	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3416	36	M21	HSS6X6...	.032	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3417	36	M22	HSS6X6...	.433	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1a
3418	36	M23	HSS6X6...	.059	14.9531	.012	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3419	36	M24	HSS6X6...	.003	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3420	36	M25	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3421	36	M26	HSS6X6...	.090	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3422	36	M27	HSS6X6...	.093	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3423	36	M28	HSS6X6...	.089	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3424	36	M29	W18X50	.032	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3425	36	M30	W18X50	.035	15	.002	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
3426	36	M31	W18X50	.032	14.5	.002	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3427	36	M32	W18X50	.031	14.5	.002	29	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3428	36	M33	W14X22	.112	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3429	36	M34	W14X22	.101	14.5	.002	0	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3430	36	M35	W24X68	.034	10.335	.011	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3431	36	M36	W24X68	.005	10.33	.006	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3432	36	M37	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3433	36	M38	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3434	36	M39	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3435	36	M40	W24X68	.179	16.5	.017	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3436	36	M41	W24X68	.144	15.3654	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3437	36	M42	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3438	36	M43	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3439	36	M44	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3440	36	M45	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3441	36	M46	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3442	36	M47	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3443	36	M48	W24X68	.139	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3444	36	M49	W14X22	.086	15.3654	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3445	36	M50	W14X22	.086	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3446	36	M51	W14X22	.086	15.3654	.003	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3447	36	M52	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3448	36	M53	W14X22	.086	15.3654	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3449	36	M54	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3450	36	M55	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3451	36	M56	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3452	36	M57	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3453	36	M58	W24X94	.184	16.5	.021	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3454	36	M59	W21X44	.210	10.33	.024	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3455	36	M60	W21X44	.211	10.335	.024	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3456	36	M61	W24X68	.129	15	.014	30	y	122.7178	904.5	91.875	217.0195	1.1...	H1-1b
3457	36	M62	W24X68	.145	16.0193	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3458	36	M63	W24X68	.034	10.335	.012	20.67	y	258.5051	904.5	91.875	392.4708	1.1...	H1-1b
3459	36	M64	W24X68	.034	10.33	.010	20.66	y	258.7554	904.5	91.875	392.7896	1.1...	H1-1b
3460	36	M65	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3461	36	M66	W24X68	.179	16.5	.015	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3462	36	M67	W24X68	.179	16.5	.016	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3463	36	M68	W24X68	.179	16.5	.016	33	y	101.4197	904.5	91.875	188.5468	1.1...	H1-1b
3464	36	M69	W24X68	.140	15.6924	.014	31.3847	y	112.1279	904.5	91.875	202.9253	1.1...	H1-1b
3465	36	M70	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3466	36	M71	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3467	36	M72	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3468	36	M73	W14X22	.086	16.0193	.002	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3469	36	M74	W14X22	.086	15.6924	.002	31.3847	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3470	36	M75	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3471	36	M76	W14X22	.081	15	.003	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3472	36	M77	W14X22	.081	15	.003	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3473	36	M78	W14X22	.081	15	.002	30	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3474	36	M79	W14X22	.081	15	.002	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3475	36	M80	W21X50	.329	16.5	.008	16.8438	y	35.8714	661.5	45.75	89.7148	1.3...	H1-1b
3476	36	M81	W18X35	.053	15	.002	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3477	36	M82	W18X35	.004	16.51	.002	16.51	y	88.0592	463.5	30.225	185.886	1.9...	H1-1b
3478	36	M83	HSS6X6...	.037	16.3248	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3479	36	M84	HSS6X6...	.037	16.3248	.003	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3480	36	M85	HSS8X8...	.027	17.1191	.003	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
3481	36	M86	HSS8X8...	.026	16.1555	.004	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
3482	36	M87	HSS4X4...	.053	9.7334	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3483	36	M88	HSS4X4...	.501	10.5446	.001	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1a
3484	36	M89	HSS6X6...	.352	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.7...	H1-1a
3485	36	M90	HSS6X6...	.264	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	2.7...	H1-1a
3486	36	M91	HSS6X6...	.066	23.3275	.002	23.3275	y	82.3646	216.29...	38.6248	38.6248	1.4...	H1-1b
3487	36	M92	HSS6X6...	.064	0	.002	0	y	103.4111	216.29...	38.6248	38.6248	2.6...	H1-1b
3488	36	M93	HSS6X6...	.419	23.3416	.002	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.2...	H1-1a
3489	36	M94	HSS6X6...	.297	0	.002	0	y	103.5321	216.29...	38.6248	38.6248	1.3...	H1-1a
3490	36	M95	HSS6X6...	.536	17.6789	.003	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1a
3491	36	M96	W24X68	.017	0	.006	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3492	36	M97	W18X35	.005	0	.002	0	y	88.2729	463.5	30.225	249.375	2.8...	H1-1b
3493	37	M1	HSS6X6...	.016	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3494	37	M2	HSS6X6...	.011	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3495	37	M3	HSS6X6...	.011	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
3496	37	M4	HSS6X6...	.011	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
3497	37	M5	HSS6X6...	.008	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3498	37	M6	HSS6X6...	.006	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3499	37	M7	HSS6X6...	.015	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3500	37	M8	HSS6X6...	.028	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3501	37	M9	HSS6X6...	.032	0	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3502	37	M10	HSS6X6...	.015	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3503	37	M11	HSS6X6...	.019	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3504	37	M12	HSS6X6...	.025	0	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
3505	37	M13	HSS6X6...	.019	0	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3506	37	M14	HSS8X8...	.018	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3507	37	M15	HSS8X8...	.016	0	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3508	37	M16	HSS8X8...	.023	16.3281	.001	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3509	37	M17	HSS6X6...	.008	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3510	37	M18	HSS6X6...	.009	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3511	37	M19	HSS6X6...	.011	0	.000	0	z	133.5375	216.29...	38.6248	38.6248	1	H1-1b
3512	37	M20	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1	H1-1b
3513	37	M21	HSS6X6...	.011	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3514	37	M22	HSS6X6...	.029	0	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
3515	37	M23	HSS6X6...	.017	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3516	37	M24	HSS6X6...	.029	0	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.9...	H1-1b
3517	37	M25	HSS6X6...	.025	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3518	37	M26	HSS6X6...	.025	0	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3519	37	M27	HSS6X6...	.032	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3520	37	M28	HSS6X6...	.033	0	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3521	37	M29	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3522	37	M30	W18X50	.049	15	.004	0	y	69.9003	661.5	62.25	114.976	1.1...	H1-1b
3523	37	M31	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3524	37	M32	W18X50	.044	14.5	.004	0	y	74.8042	661.5	62.25	120.296	1.1...	H1-1b
3525	37	M33	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3526	37	M34	W14X22	.121	14.5	.004	29	y	13.0581	292.05	16.4625	19.2526	1.1...	H1-1b
3527	37	M35	W24X68	.009	10.335	.003	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3528	37	M36	W24X68	.002	10.33	.002	10.33	y	618.0979	904.5	91.875	663.75	2.3...	H1-1b
3529	37	M37	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3530	37	M38	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3531	37	M39	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3532	37	M40	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3533	37	M41	W24X68	.038	15.6924	.004	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3534	37	M42	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3535	37	M43	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3536	37	M44	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3537	37	M45	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3538	37	M46	W21X44	.021	10.33	.002	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3539	37	M47	W21X44	.021	10.335	.002	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3540	37	M48	W24X68	.039	16.0193	.004	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3541	37	M49	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3542	37	M50	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3543	37	M51	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3544	37	M52	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3545	37	M53	W14X22	.144	15.3654	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3546	37	M54	W24X68	.035	15	.004	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3547	37	M55	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3548	37	M56	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3549	37	M57	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3550	37	M58	W24X94	.036	16.5	.004	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3551	37	M59	W21X44	.021	10.33	.002	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3552	37	M60	W21X44	.021	10.335	.002	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3553	37	M61	W24X68	.035	15	.004	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3554	37	M62	W24X68	.038	15.6924	.004	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3555	37	M63	W24X68	.009	10.335	.003	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3556	37	M64	W24X68	.009	10.33	.003	20.66	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
3557	37	M65	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3558	37	M66	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3559	37	M67	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3560	37	M68	W24X68	.049	16.5	.004	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3561	37	M69	W24X68	.039	15.3654	.004	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3562	37	M70	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3563	37	M71	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3564	37	M72	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3565	37	M73	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3566	37	M74	W14X22	.144	16.0193	.004	0	y	11.1491	292.05	16.4625	17.4741	1.1...	H1-1b
3567	37	M75	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3568	37	M76	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3569	37	M77	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3570	37	M78	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3571	37	M79	W14X22	.135	15	.004	0	y	12.2021	292.05	16.4625	18.4635	1.1...	H1-1b
3572	37	M80	W21X50	.074	14.7813	.003	0	y	35.8714	661.5	45.75	74.3052	1.1...	H1-1b
3573	37	M81	W18X35	.088	15	.004	0	y	26.6702	463.5	30.225	44.8807	1.1...	H1-1b
3574	37	M82	W18X35	.006	16.51	.003	16.51	y	88.0592	463.5	30.225	184.3829	1.9...	H1-1b
3575	37	M83	HSS6X6...	.059	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3576	37	M84	HSS6X6...	.059	15.9847	.004	32.6497	y	58.0266	313.40...	54.5408	54.5408	1.1...	H1-1b
3577	37	M85	HSS8X8...	.045	16.7624	.004	0	y	133.1778	428.91...	101.4764	101.4764	1.1...	H1-1b
3578	37	M86	HSS8X8...	.042	16.1555	.005	32.311	y	149.5381	428.91...	101.4764	101.4764	1.1...	H1-1b
3579	37	M87	HSS4X4...	.028	9.3279	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3580	37	M88	HSS4X4...	.028	10.139	.002	0	y	32.2424	139.29...	16.1602	16.1602	1.1...	H1-1b
3581	37	M89	HSS6X6...	.031	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	1.4...	H1-1b
3582	37	M90	HSS6X6...	.023	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	1.3...	H1-1b
3583	37	M91	HSS6X6...	.038	23.3275	.003	23.3275	y	82.3646	216.29...	38.6248	38.6248	2.0...	H1-1b
3584	37	M92	HSS6X6...	.028	0	.003	0	y	103.4111	216.29...	38.6248	38.6248	2.0...	H1-1b
3585	37	M93	HSS6X6...	.024	23.3416	.003	23.3416	y	82.2648	216.29...	38.6248	38.6248	2.0...	H1-1b
3586	37	M94	HSS6X6...	.020	0	.003	0	y	103.5321	216.29...	38.6248	38.6248	2.1...	H1-1b
3587	37	M95	HSS6X6...	.070	18.0632	.005	0	y	32.9259	216.29...	38.6248	38.6248	1.1...	H1-1b
3588	37	M96	W24X68	.002	0	.002	0	y	618.0979	904.5	91.875	663.75	2.3...	H1-1b
3589	37	M97	W18X35	.006	0	.002	0	y	88.2729	463.5	30.225	180.9588	1.9...	H1-1b
3590	38	M1	HSS6X6...	.036	15.125	.000	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3591	38	M2	HSS6X6...	.036	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3592	38	M3	HSS6X6...	.036	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3593	38	M4	HSS6X6...	.036	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3594	38	M5	HSS6X6...	.022	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3595	38	M6	HSS6X6...	.015	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3596	38	M7	HSS6X6...	.045	14.9531	.007	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3597	38	M8	HSS6X6...	.225	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3598	38	M9	HSS6X6...	.227	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3599	38	M10	HSS6X6...	.030	15.125	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3600	38	M11	HSS6X6...	.221	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
3601	38	M12	HSS6X6...	.239	28.5	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3602	38	M13	HSS6X6...	.221	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
3603	38	M14	HSS8X8...	.045	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3604	38	M15	HSS8X8...	.053	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3605	38	M16	HSS8X8...	.053	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3606	38	M17	HSS6X6...	.022	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3607	38	M18	HSS6X6...	.029	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3608	38	M19	HSS6X6...	.036	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3609	38	M20	HSS6X6...	.036	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3610	38	M21	HSS6X6...	.036	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3611	38	M22	HSS6X6...	.240	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1a
3612	38	M23	HSS6X6...	.046	14.9531	.004	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3613	38	M24	HSS6X6...	.092	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.5...	H1-1b
3614	38	M25	HSS6X6...	.209	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
3615	38	M26	HSS6X6...	.209	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
3616	38	M27	HSS6X6...	.100	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3617	38	M28	HSS6X6...	.101	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3618	38	M29	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3619	38	M30	W18X50	.000	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
3620	38	M31	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3621	38	M32	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3622	38	M33	W14X22	.001	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3623	38	M34	W14X22	.001	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
3624	38	M35	W24X68	.039	10.335	.012	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3625	38	M36	W24X68	.006	10.33	.007	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3626	38	M37	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3627	38	M38	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3628	38	M39	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3629	38	M40	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3630	38	M41	W24X68	.163	15.3654	.016	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3631	38	M42	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3632	38	M43	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3633	38	M44	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3634	38	M45	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3635	38	M46	W21X44	.277	10.33	.031	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3636	38	M47	W21X44	.278	10.335	.031	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3637	38	M48	W24X68	.165	16.0193	.016	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3638	38	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3639	38	M50	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3640	38	M51	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3641	38	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3642	38	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3643	38	M54	W24X68	.150	15	.016	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3644	38	M55	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3645	38	M56	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3646	38	M57	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3647	38	M58	W24X94	.228	16.5	.026	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3648	38	M59	W21X44	.277	10.33	.031	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3649	38	M60	W21X44	.278	10.335	.031	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3650	38	M61	W24X68	.150	15	.016	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3651	38	M62	W24X68	.163	16.0193	.016	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3652	38	M63	W24X68	.039	10.335	.011	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3653	38	M64	W24X68	.039	10.33	.011	20.66	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
3654	38	M65	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3655	38	M66	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3656	38	M67	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3657	38	M68	W24X68	.209	16.5	.018	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3658	38	M69	W24X68	.164	15.3654	.016	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3659	38	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3660	38	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3661	38	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3662	38	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3663	38	M74	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3664	38	M75	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3665	38	M76	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
3666	38	M77	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3667	38	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3668	38	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3669	38	M80	W21X50	.037	16.5	.001	0	y	35.8714	661.5	45.75	88.1584	1.3...	H1-1b
3670	38	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
3671	38	M82	W18X35	.002	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
3672	38	M83	HSS6X6...	.004	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3673	38	M84	HSS6X6...	.003	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3674	38	M85	HSS8X8...	.001	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
3675	38	M86	HSS8X8...	.000	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
3676	38	M87	HSS4X4...	.035	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3677	38	M88	HSS4X4...	.035	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3678	38	M89	HSS6X6...	.016	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3679	38	M90	HSS6X6...	.014	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3680	38	M91	HSS6X6...	.033	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
3681	38	M92	HSS6X6...	.031	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
3682	38	M93	HSS6X6...	.019	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3683	38	M94	HSS6X6...	.020	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3684	38	M95	HSS6X6...	.000	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
3685	38	M96	W24X68	.006	0	.007	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3686	38	M97	W18X35	.002	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
3687	39	M1	HSS6X6...	.043	15.125	.000	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3688	39	M2	HSS6X6...	.043	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3689	39	M3	HSS6X6...	.043	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3690	39	M4	HSS6X6...	.043	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3691	39	M5	HSS6X6...	.026	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3692	39	M6	HSS6X6...	.018	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3693	39	M7	HSS6X6...	.054	14.9531	.008	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3694	39	M8	HSS6X6...	.267	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3695	39	M9	HSS6X6...	.270	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
3696	39	M10	HSS6X6...	.036	15.125	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3697	39	M11	HSS6X6...	.263	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
3698	39	M12	HSS6X6...	.285	28.5	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1a
3699	39	M13	HSS6X6...	.263	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1a
3700	39	M14	HSS8X8...	.054	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3701	39	M15	HSS8X8...	.063	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3702	39	M16	HSS8X8...	.063	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3703	39	M17	HSS6X6...	.027	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3704	39	M18	HSS6X6...	.035	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3705	39	M19	HSS6X6...	.043	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3706	39	M20	HSS6X6...	.043	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3707	39	M21	HSS6X6...	.043	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3708	39	M22	HSS6X6...	.286	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1a
3709	39	M23	HSS6X6...	.055	14.9531	.005	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3710	39	M24	HSS6X6...	.219	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.5...	H1-1a
3711	39	M25	HSS6X6...	.249	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
3712	39	M26	HSS6X6...	.249	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1a
3713	39	M27	HSS6X6...	.237	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
3714	39	M28	HSS6X6...	.239	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1a
3715	39	M29	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3716	39	M30	W18X50	.000	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
3717	39	M31	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3718	39	M32	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3719	39	M33	W14X22	.001	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3720	39	M34	W14X22	.001	0	.000	0	y	13.0581	292.05	16.4625	16.9423	1	H1-1b
3721	39	M35	W24X68	.047	10.335	.014	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3722	39	M36	W24X68	.007	10.33	.009	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3723	39	M37	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3724	39	M38	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3725	39	M39	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3726	39	M40	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3727	39	M41	W24X68	.194	15.3654	.019	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3728	39	M42	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3729	39	M43	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3730	39	M44	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3731	39	M45	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3732	39	M46	W21X44	.330	10.33	.037	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3733	39	M47	W21X44	.330	10.335	.037	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3734	39	M48	W24X68	.196	16.0193	.019	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3735	39	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3736	39	M50	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3737	39	M51	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3738	39	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3739	39	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3740	39	M54	W24X68	.179	15	.019	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3741	39	M55	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3742	39	M56	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3743	39	M57	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3744	39	M58	W24X94	.271	16.5	.031	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3745	39	M59	W21X44	.330	10.33	.037	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3746	39	M60	W21X44	.330	10.335	.037	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3747	39	M61	W24X68	.179	15	.019	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3748	39	M62	W24X68	.194	16.0193	.019	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3749	39	M63	W24X68	.047	10.335	.014	0	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3750	39	M64	W24X68	.047	10.33	.013	0	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
3751	39	M65	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3752	39	M66	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3753	39	M67	W24X68	.249	16.5	.021	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3754	39	M68	W24X68	.249	16.5	.022	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3755	39	M69	W24X68	.195	15.3654	.019	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3756	39	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3757	39	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3758	39	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3759	39	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3760	39	M74	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
3761	39	M75	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3762	39	M76	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
3763	39	M77	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
3764	39	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3765	39	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3766	39	M80	W21X50	.044	16.5	.001	0	y	35.8714	661.5	45.75	88.1579	1.3...	H1-1b
3767	39	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
3768	39	M82	W18X35	.002	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
3769	39	M83	HSS6X6...	.005	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3770	39	M84	HSS6X6...	.003	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3771	39	M85	HSS8X8...	.001	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
3772	39	M86	HSS8X8...	.000	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
3773	39	M87	HSS4X4...	.041	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3774	39	M88	HSS4X4...	.041	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3775	39	M89	HSS6X6...	.019	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3776	39	M90	HSS6X6...	.017	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3777	39	M91	HSS6X6...	.040	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
3778	39	M92	HSS6X6...	.037	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
3779	39	M93	HSS6X6...	.023	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3780	39	M94	HSS6X6...	.024	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3781	39	M95	HSS6X6...	.000	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
3782	39	M96	W24X68	.007	0	.008	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3783	39	M97	W18X35	.002	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
3784	40	M1	HSS6X6...	.073	14.9531	.024	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3785	40	M2	HSS6X6...	.012	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3786	40	M3	HSS6X6...	.011	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3787	40	M4	HSS6X6...	.011	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3788	40	M5	HSS6X6...	.007	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3789	40	M6	HSS6X6...	.005	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3790	40	M7	HSS6X6...	.052	14.9531	.017	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3791	40	M8	HSS6X6...	.019	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3792	40	M9	HSS6X6...	.021	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3793	40	M10	HSS6X6...	.040	14.9531	.014	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3794	40	M11	HSS6X6...	.018	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3795	40	M12	HSS6X6...	.019	28.5	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
3796	40	M13	HSS6X6...	.019	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3797	40	M14	HSS8X8...	.016	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3798	40	M15	HSS8X8...	.010	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3799	40	M16	HSS8X8...	.028	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3800	40	M17	HSS6X6...	.009	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3801	40	M18	HSS6X6...	.011	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3802	40	M19	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3803	40	M20	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3804	40	M21	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3805	40	M22	HSS6X6...	.018	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.8...	H1-1b
3806	40	M23	HSS6X6...	.056	14.9531	.019	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3807	40	M24	HSS6X6...	.014	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.8...	H1-1b
3808	40	M25	HSS6X6...	.016	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3809	40	M26	HSS6X6...	.016	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3810	40	M27	HSS6X6...	.017	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3811	40	M28	HSS6X6...	.017	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3812	40	M29	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3813	40	M30	W18X50	.001	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
3814	40	M31	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3815	40	M32	W18X50	.008	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3816	40	M33	W14X22	.049	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3817	40	M34	W14X22	.045	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
3818	40	M35	W24X68	.071	10.335	.009	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3819	40	M36	W24X68	.049	10.33	.004	10.33	y	618.0979	904.5	91.875	663.75	1.5...	H1-1b
3820	40	M37	W24X68	.249	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3821	40	M38	W24X68	.249	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3822	40	M39	W24X68	.249	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3823	40	M40	W24X68	.249	16.5	.013	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3824	40	M41	W24X68	.102	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3825	40	M42	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3826	40	M43	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3827	40	M44	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3828	40	M45	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3829	40	M46	W21X44	.173	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3830	40	M47	W21X44	.174	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3831	40	M48	W24X68	.102	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3832	40	M49	W14X22	.080	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3833	40	M50	W14X22	.208	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1a
3834	40	M51	W14X22	.256	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1a
3835	40	M52	W14X22	.256	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1a
3836	40	M53	W14X22	.256	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1a
3837	40	M54	W24X68	.094	15	.010	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3838	40	M55	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3839	40	M56	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3840	40	M57	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3841	40	M58	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3842	40	M59	W21X44	.173	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3843	40	M60	W21X44	.174	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3844	40	M61	W24X68	.094	15	.010	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3845	40	M62	W24X68	.106	15.3654	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3846	40	M63	W24X68	.025	10.335	.008	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3847	40	M64	W24X68	.025	10.33	.007	20.66	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
3848	40	M65	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3849	40	M66	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3850	40	M67	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3851	40	M68	W24X68	.131	16.5	.012	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3852	40	M69	W24X68	.107	16.0193	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3853	40	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3854	40	M71	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
3855	40	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3856	40	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3857	40	M74	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3858	40	M75	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
3859	40	M76	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3860	40	M77	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
3861	40	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3862	40	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3863	40	M80	W21X50	.036	16.5	.001	0	y	35.8714	661.5	45.75	88.022	1.3...	H1-1b
3864	40	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
3865	40	M82	W18X35	.001	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
3866	40	M83	HSS6X6...	.004	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3867	40	M84	HSS6X6...	.028	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3868	40	M85	HSS8X8...	.039	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
3869	40	M86	HSS8X8...	.012	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
3870	40	M87	HSS4X4...	.005	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3871	40	M88	HSS4X4...	.005	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3872	40	M89	HSS6X6...	.007	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3873	40	M90	HSS6X6...	.008	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3874	40	M91	HSS6X6...	.009	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
3875	40	M92	HSS6X6...	.011	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3876	40	M93	HSS6X6...	.004	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3877	40	M94	HSS6X6...	.006	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3878	40	M95	HSS6X6...	.000	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
3879	40	M96	W24X68	.049	0	.004	0	y	618.0979	904.5	91.875	663.75	1.5...	H1-1b
3880	40	M97	W18X35	.001	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
3881	41	M1	HSS6X6...	.019	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3882	41	M2	HSS6X6...	.014	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3883	41	M3	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3884	41	M4	HSS6X6...	.014	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3885	41	M5	HSS6X6...	.009	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3886	41	M6	HSS6X6...	.006	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3887	41	M7	HSS6X6...	.017	14.9531	.002	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3888	41	M8	HSS6X6...	.018	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3889	41	M9	HSS6X6...	.018	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3890	41	M10	HSS6X6...	.017	14.9531	.003	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3891	41	M11	HSS6X6...	.018	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3892	41	M12	HSS6X6...	.019	28.5	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
3893	41	M13	HSS6X6...	.018	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3894	41	M14	HSS8X8...	.017	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3895	41	M15	HSS8X8...	.015	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3896	41	M16	HSS8X8...	.018	16.625	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3897	41	M17	HSS6X6...	.009	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3898	41	M18	HSS6X6...	.011	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3899	41	M19	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3900	41	M20	HSS6X6...	.012	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3901	41	M21	HSS6X6...	.014	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3902	41	M22	HSS6X6...	.022	16.625	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.8...	H1-1b
3903	41	M23	HSS6X6...	.016	14.9531	.001	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3904	41	M24	HSS6X6...	.012	16.625	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
3905	41	M25	HSS6X6...	.015	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3906	41	M26	HSS6X6...	.015	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
3907	41	M27	HSS6X6...	.015	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3908	41	M28	HSS6X6...	.015	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
3909	41	M29	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3910	41	M30	W18X50	.001	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
3911	41	M31	W18X50	.000	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3912	41	M32	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
3913	41	M33	W14X22	.007	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3914	41	M34	W14X22	.006	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
3915	41	M35	W24X68	.028	10.335	.007	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3916	41	M36	W24X68	.005	10.33	.004	10.33	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3917	41	M37	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3918	41	M38	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3919	41	M39	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3920	41	M40	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3921	41	M41	W24X68	.102	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3922	41	M42	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3923	41	M43	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3924	41	M44	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3925	41	M45	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3926	41	M46	W21X44	.173	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3927	41	M47	W21X44	.174	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3928	41	M48	W24X68	.236	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3929	41	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3930	41	M50	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3931	41	M51	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3932	41	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3933	41	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3934	41	M54	W24X68	.094	15	.010	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3935	41	M55	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3936	41	M56	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3937	41	M57	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3938	41	M58	W24X94	.142	16.5	.016	0	y	157.0276	1246.5	140.625	352.8566	1.1...	H1-1b
3939	41	M59	W21X44	.173	10.33	.020	20.66	y	76.0829	585	38.2154	113.5443	1.1...	H1-1b
3940	41	M60	W21X44	.174	10.335	.020	20.67	y	76.0093	585	38.2154	113.4601	1.1...	H1-1b
3941	41	M61	W24X68	.216	15	.010	0	y	122.7178	904.5	91.875	217.0147	1.1...	H1-1b
3942	41	M62	W24X68	.236	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3943	41	M63	W24X68	.028	10.335	.007	20.67	y	258.5051	904.5	91.875	392.4622	1.1...	H1-1b
3944	41	M64	W24X68	.028	10.33	.007	20.66	y	258.7554	904.5	91.875	392.7809	1.1...	H1-1b
3945	41	M65	W24X68	.138	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3946	41	M66	W24X68	.138	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3947	41	M67	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3948	41	M68	W24X68	.131	16.5	.011	0	y	101.4197	904.5	91.875	188.5427	1.1...	H1-1b
3949	41	M69	W24X68	.102	15.6924	.010	0	y	112.1279	904.5	91.875	202.9208	1.1...	H1-1b
3950	41	M70	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
3951	41	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3952	41	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3953	41	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3954	41	M74	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
3955	41	M75	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3956	41	M76	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3957	41	M77	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3958	41	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3959	41	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
3960	41	M80	W21X50	.057	16.5	.001	0	y	35.8714	661.5	45.75	87.902	1.3...	H1-1b
3961	41	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
3962	41	M82	W18X35	.001	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
3963	41	M83	HSS6X6...	.000	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3964	41	M84	HSS6X6...	.001	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
3965	41	M85	HSS8X8...	.000	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
3966	41	M86	HSS8X8...	.000	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
3967	41	M87	HSS4X4...	.001	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3968	41	M88	HSS4X4...	.010	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
3969	41	M89	HSS6X6...	.012	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3970	41	M90	HSS6X6...	.013	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3971	41	M91	HSS6X6...	.001	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
3972	41	M92	HSS6X6...	.004	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
3973	41	M93	HSS6X6...	.012	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
3974	41	M94	HSS6X6...	.013	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
3975	41	M95	HSS6X6...	.004	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
3976	41	M96	W24X68	.004	0	.004	0	y	618.0979	904.5	91.875	663.75	2.1...	H1-1b
3977	41	M97	W18X35	.001	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
3978	42	M1	HSS6X6...	.142	14.9531	.038	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3979	42	M2	HSS6X6...	.000	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3980	42	M3	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3981	42	M4	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3982	42	M5	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3983	42	M6	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3984	42	M7	HSS6X6...	.123	14.9531	.051	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3985	42	M8	HSS6X6...	.010	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3986	42	M9	HSS6X6...	.004	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
3987	42	M10	HSS6X6...	.229	14.9531	.066	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
3988	42	M11	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3989	42	M12	HSS6X6...	.000	28.5	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
3990	42	M13	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
3991	42	M14	HSS8X8...	.004	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
3992	42	M15	HSS8X8...	.057	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3993	42	M16	HSS8X8...	.062	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
3994	42	M17	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3995	42	M18	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3996	42	M19	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3997	42	M20	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3998	42	M21	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
3999	42	M22	HSS6X6...	.005	16.3281	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
4000	42	M23	HSS6X6...	.101	14.9531	.041	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4001	42	M24	HSS6X6...	.001	16.3281	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4002	42	M25	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4003	42	M26	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4004	42	M27	HSS6X6...	.003	15.1406	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4005	42	M28	HSS6X6...	.007	15.1406	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4006	42	M29	W18X50	.002	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4007	42	M30	W18X50	.002	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
4008	42	M31	W18X50	.002	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4009	42	M32	W18X50	.411	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1a
4010	42	M33	W14X22	.283	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1a
4011	42	M34	W14X22	.264	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1a
4012	42	M35	W24X68	.000	0	.005	0	z	258.5051	904.5	91.875	345.3667	1	H1-1b
4013	42	M36	W24X68	.000	10.33	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4014	42	M37	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4015	42	M38	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4016	42	M39	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4017	42	M40	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4018	42	M41	W24X68	.001	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4019	42	M42	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4020	42	M43	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4021	42	M44	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4022	42	M45	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4023	42	M46	W21X44	.000	0	.000	0	z	76.0829	585	38.2154	99.919	1	H1-1b
4024	42	M47	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4025	42	M48	W24X68	.002	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4026	42	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4027	42	M50	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4028	42	M51	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4029	42	M52	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4030	42	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4031	42	M54	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4032	42	M55	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4033	42	M56	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4034	42	M57	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4035	42	M58	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4036	42	M59	W21X44	.000	0	.000	0	z	76.0829	585	38.2154	99.919	1	H1-1b
4037	42	M60	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4038	42	M61	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4039	42	M62	W24X68	.019	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4040	42	M63	W24X68	.000	0	.007	0	y	258.5051	904.5	91.875	345.3667	1	H1-1b
4041	42	M64	W24X68	.000	0	.000	0	y	258.7554	904.5	91.875	345.6472	1	H1-1b
4042	42	M65	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4043	42	M66	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4044	42	M67	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4045	42	M68	W24X68	.000	0	.003	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4046	42	M69	W24X68	.012	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4047	42	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4048	42	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4049	42	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4050	42	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4051	42	M74	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4052	42	M75	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4053	42	M76	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4054	42	M77	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4055	42	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4056	42	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4057	42	M80	W21X50	.036	16.8438	.001	0	y	35.8714	661.5	45.75	87.7357	1.3...	H1-1b
4058	42	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
4059	42	M82	W18X35	.000	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
4060	42	M83	HSS6X6...	.063	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4061	42	M84	HSS6X6...	.808	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1a
4062	42	M85	HSS8X8...	.443	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1a
4063	42	M86	HSS8X8...	.065	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
4064	42	M87	HSS4X4...	.000	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4065	42	M88	HSS4X4...	.000	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4066	42	M89	HSS6X6...	.009	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
4067	42	M90	HSS6X6...	.008	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4068	42	M91	HSS6X6...	.003	23.3275	.000	0	z	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
4069	42	M92	HSS6X6...	.003	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
4070	42	M93	HSS6X6...	.008	23.3416	.000	0	z	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
4071	42	M94	HSS6X6...	.006	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4072	42	M95	HSS6X6...	.000	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
4073	42	M96	W24X68	.000	0	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4074	42	M97	W18X35	.000	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
4075	43	M1	HSS6X6...	.066	14.9531	.025	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4076	43	M2	HSS6X6...	.000	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4077	43	M3	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4078	43	M4	HSS6X6...	.000	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4079	43	M5	HSS6X6...	.000	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4080	43	M6	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4081	43	M7	HSS6X6...	.063	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4082	43	M8	HSS6X6...	.005	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4083	43	M9	HSS6X6...	.009	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4084	43	M10	HSS6X6...	.075	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4085	43	M11	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4086	43	M12	HSS6X6...	.000	28.5	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
4087	43	M13	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4088	43	M14	HSS8X8...	.056	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
4089	43	M15	HSS8X8...	.001	28.5	.000	0	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
4090	43	M16	HSS8X8...	.103	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.6...	H1-1b
4091	43	M17	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4092	43	M18	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4093	43	M19	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4094	43	M20	HSS6X6...	.039	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4095	43	M21	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4096	43	M22	HSS6X6...	.042	16.3281	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.5...	H1-1b
4097	43	M23	HSS6X6...	.059	14.9531	.024	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4098	43	M24	HSS6X6...	.248	16.3281	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.4...	H1-1a
4099	43	M25	HSS6X6...	.000	28.5	.000	0	z	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4100	43	M26	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4101	43	M27	HSS6X6...	.004	15.1406	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4102	43	M28	HSS6X6...	.007	15.1406	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4103	43	M29	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4104	43	M30	W18X50	.001	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
4105	43	M31	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4106	43	M32	W18X50	.001	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4107	43	M33	W14X22	.003	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4108	43	M34	W14X22	.003	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
4109	43	M35	W24X68	.000	0	.003	0	z	258.5051	904.5	91.875	345.3667	1	H1-1b
4110	43	M36	W24X68	.017	10.33	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4111	43	M37	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4112	43	M38	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4113	43	M39	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4114	43	M40	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4115	43	M41	W24X68	.001	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4116	43	M42	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4117	43	M43	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4118	43	M44	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4119	43	M45	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4120	43	M46	W21X44	.000	0	.000	0	y	76.0829	585	38.2154	99.919	1	H1-1b
4121	43	M47	W21X44	.000	0	.000	0	y	76.0093	585	38.2154	99.8449	1	H1-1b
4122	43	M48	W24X68	.008	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4123	43	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4124	43	M50	W14X22	.000	0	.001	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4125	43	M51	W14X22	.000	0	.001	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4126	43	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4127	43	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4128	43	M54	W24X68	.000	0	.000	0	y	122.7178	904.5	91.875	190.9729	1	H1-1b
4129	43	M55	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4130	43	M56	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4131	43	M57	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4132	43	M58	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4133	43	M59	W21X44	.000	0	.000	0	z	76.0829	585	38.2154	99.919	1	H1-1b
4134	43	M60	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4135	43	M61	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4136	43	M62	W24X68	.001	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4137	43	M63	W24X68	.000	0	.003	0	z	258.5051	904.5	91.875	345.3667	1	H1-1b
4138	43	M64	W24X68	.000	0	.000	0	z	258.7554	904.5	91.875	345.6472	1	H1-1b
4139	43	M65	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4140	43	M66	W24X68	.207	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1a
4141	43	M67	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4142	43	M68	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4143	43	M69	W24X68	.007	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4144	43	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4145	43	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4146	43	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4147	43	M73	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4148	43	M74	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4149	43	M75	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4150	43	M76	W14X22	.000	0	.001	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4151	43	M77	W14X22	.000	0	.001	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4152	43	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4153	43	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4154	43	M80	W21X50	.486	16.8438	.011	16.8438	y	35.8714	661.5	45.75	87.7351	1.3...	H1-1b
4155	43	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
4156	43	M82	W18X35	.003	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
4157	43	M83	HSS6X6...	.036	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4158	43	M84	HSS6X6...	.033	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4159	43	M85	HSS8X8...	.001	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
4160	43	M86	HSS8X8...	.000	0	.002	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4161	43	M87	HSS4X4...	.613	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1a
4162	43	M88	HSS4X4...	.071	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4163	43	M89	HSS6X6...	.112	23.3416	.001	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
4164	43	M90	HSS6X6...	.100	0	.001	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4165	43	M91	HSS6X6...	.517	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1a
4166	43	M92	HSS6X6...	.360	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1a
4167	43	M93	HSS6X6...	.208	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1a
4168	43	M94	HSS6X6...	.096	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4169	43	M95	HSS6X6...	.054	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
4170	43	M96	W24X68	.000	0	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4171	43	M97	W18X35	.003	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
4172	44	M1	HSS6X6...	.178	14.9531	.040	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4173	44	M2	HSS6X6...	.000	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4174	44	M3	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4175	44	M4	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4176	44	M5	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4177	44	M6	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4178	44	M7	HSS6X6...	.143	14.9531	.058	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4179	44	M8	HSS6X6...	.005	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4180	44	M9	HSS6X6...	.015	15.1406	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4181	44	M10	HSS6X6...	.193	14.9531	.062	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4182	44	M11	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4183	44	M12	HSS6X6...	.000	28.5	.000	0	y	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
4184	44	M13	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4185	44	M14	HSS8X8...	.004	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.4...	H1-1b
4186	44	M15	HSS8X8...	.027	16.625	.000	16.625	y	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
4187	44	M16	HSS8X8...	.255	16.3281	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1a
4188	44	M17	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4189	44	M18	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4190	44	M19	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4191	44	M20	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4192	44	M21	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4193	44	M22	HSS6X6...	.001	16.3281	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.7...	H1-1b
4194	44	M23	HSS6X6...	.102	14.9531	.042	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4195	44	M24	HSS6X6...	.004	16.3281	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.7...	H1-1b
4196	44	M25	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4197	44	M26	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4198	44	M27	HSS6X6...	.007	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4199	44	M28	HSS6X6...	.002	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4200	44	M29	W18X50	.019	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4201	44	M30	W18X50	.020	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
4202	44	M31	W18X50	.019	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4203	44	M32	W18X50	.003	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4204	44	M33	W14X22	.007	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4205	44	M34	W14X22	.007	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
4206	44	M35	W24X68	.000	0	.006	0	y	258.5051	904.5	91.875	345.3667	1	H1-1b
4207	44	M36	W24X68	.000	10.33	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4208	44	M37	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4209	44	M38	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4210	44	M39	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4211	44	M40	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4212	44	M41	W24X68	.012	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4213	44	M42	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4214	44	M43	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4215	44	M44	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4216	44	M45	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4217	44	M46	W21X44	.000	0	.000	0	y	76.0829	585	38.2154	99.919	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4218	44	M47	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4219	44	M48	W24X68	.017	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4220	44	M49	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4221	44	M50	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4222	44	M51	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4223	44	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4224	44	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4225	44	M54	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4226	44	M55	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4227	44	M56	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4228	44	M57	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4229	44	M58	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4230	44	M59	W21X44	.000	0	.000	0	y	76.0829	585	38.2154	99.919	1	H1-1b
4231	44	M60	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4232	44	M61	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4233	44	M62	W24X68	.002	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4234	44	M63	W24X68	.000	0	.006	0	z	258.5051	904.5	91.875	345.3667	1	H1-1b
4235	44	M64	W24X68	.000	0	.000	0	y	258.7554	904.5	91.875	345.6472	1	H1-1b
4236	44	M65	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4237	44	M66	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4238	44	M67	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4239	44	M68	W24X68	.000	0	.003	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4240	44	M69	W24X68	.002	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4241	44	M70	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4242	44	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4243	44	M72	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4244	44	M73	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4245	44	M74	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4246	44	M75	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4247	44	M76	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4248	44	M77	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4249	44	M78	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4250	44	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4251	44	M80	W21X50	.039	16.5	.001	0	y	35.8714	661.5	45.75	87.7376	1.3...	H1-1b
4252	44	M81	W18X35	.001	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
4253	44	M82	W18X35	.000	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
4254	44	M83	HSS6X6...	.688	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1a
4255	44	M84	HSS6X6...	.075	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4256	44	M85	HSS8X8...	.068	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
4257	44	M86	HSS8X8...	.369	0	.000	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1a
4258	44	M87	HSS4X4...	.000	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4259	44	M88	HSS4X4...	.000	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4260	44	M89	HSS6X6...	.019	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
4261	44	M90	HSS6X6...	.014	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4262	44	M91	HSS6X6...	.008	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
4263	44	M92	HSS6X6...	.006	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
4264	44	M93	HSS6X6...	.003	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1b
4265	44	M94	HSS6X6...	.003	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1b
4266	44	M95	HSS6X6...	.000	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1b
4267	44	M96	W24X68	.000	0	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4268	44	M97	W18X35	.000	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b
4269	45	M1	HSS6X6...	.070	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4270	45	M2	HSS6X6...	.000	0	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4271	45	M3	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4272	45	M4	HSS6X6...	.000	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4273	45	M5	HSS6X6...	.000	16.5	.000	0	z	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4274	45	M6	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4275	45	M7	HSS6X6...	.062	14.9531	.026	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4276	45	M8	HSS6X6...	.008	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4277	45	M9	HSS6X6...	.005	14.8438	.000	15.1406	y	66.1849	265.773	46.8574	46.8574	1.3...	H1-1b
4278	45	M10	HSS6X6...	.079	14.9531	.029	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4279	45	M11	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4280	45	M12	HSS6X6...	.000	28.5	.000	0	z	66.1849	265.773	46.8574	46.8574	1.6...	H1-1b
4281	45	M13	HSS6X6...	.000	28.5	.000	0	y	55.1805	216.29...	38.6248	38.6248	1.6...	H1-1b
4282	45	M14	HSS8X8...	.053	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	2.1...	H1-1b
4283	45	M15	HSS8X8...	.001	28.5	.000	16.625	z	189.0711	428.91...	101.4764	101.4764	1.3...	H1-1b
4284	45	M16	HSS8X8...	.073	16.3281	.004	16.625	z	189.0711	428.91...	101.4764	101.4764	1.6...	H1-1b
4285	45	M17	HSS6X6...	.001	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4286	45	M18	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4287	45	M19	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4288	45	M20	HSS6X6...	.024	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4289	45	M21	HSS6X6...	.000	16.5	.000	0	y	133.5375	216.29...	38.6248	38.6248	1.6...	H1-1b
4290	45	M22	HSS6X6...	.327	16.3281	.000	16.625	z	66.1849	265.773	46.8574	46.8574	1.3...	H1-1a
4291	45	M23	HSS6X6...	.058	14.9531	.024	15.125	y	133.5375	216.29...	38.6248	38.6248	1.5...	H1-1b
4292	45	M24	HSS6X6...	.030	16.3281	.000	16.625	z	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4293	45	M25	HSS6X6...	.000	28.5	.000	0	z	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4294	45	M26	HSS6X6...	.000	28.5	.000	0	y	93.1459	403.16...	68.3003	68.3003	1.6...	H1-1b
4295	45	M27	HSS6X6...	.006	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4296	45	M28	HSS6X6...	.004	14.8438	.000	15.1406	y	93.1459	403.16...	68.3003	68.3003	1.3...	H1-1b
4297	45	M29	W18X50	.011	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4298	45	M30	W18X50	.012	0	.000	0	z	69.9003	661.5	62.25	101.1789	1	H1-1b
4299	45	M31	W18X50	.011	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4300	45	M32	W18X50	.012	0	.000	0	z	74.8042	661.5	62.25	105.8605	1	H1-1b
4301	45	M33	W14X22	.072	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4302	45	M34	W14X22	.066	0	.000	0	z	13.0581	292.05	16.4625	16.9423	1	H1-1b
4303	45	M35	W24X68	.000	0	.003	0	z	258.5051	904.5	91.875	345.3667	1	H1-1b
4304	45	M36	W24X68	.000	10.33	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4305	45	M37	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4306	45	M38	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4307	45	M39	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4308	45	M40	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4309	45	M41	W24X68	.008	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4310	45	M42	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4311	45	M43	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4312	45	M44	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4313	45	M45	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4314	45	M46	W21X44	.000	0	.000	0	z	76.0829	585	38.2154	99.919	1	H1-1b
4315	45	M47	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4316	45	M48	W24X68	.001	0	.000	0	z	112.1279	904.5	91.875	178.5703	1	H1-1b
4317	45	M49	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4318	45	M50	W14X22	.000	0	.001	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4319	45	M51	W14X22	.000	0	.001	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4320	45	M52	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4321	45	M53	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4322	45	M54	W24X68	.000	0	.000	0	z	122.7178	904.5	91.875	190.9729	1	H1-1b
4323	45	M55	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4324	45	M56	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4325	45	M57	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4326	45	M58	W24X94	.000	0	.000	0	z	157.0276	1246.5	140.625	310.5138	1	H1-1b
4327	45	M59	W21X44	.000	0	.000	0	y	76.0829	585	38.2154	99.919	1	H1-1b
4328	45	M60	W21X44	.000	0	.000	0	z	76.0093	585	38.2154	99.8449	1	H1-1b
4329	45	M61	W24X68	.000	0	.000	0	y	122.7178	904.5	91.875	190.9729	1	H1-1b
4330	45	M62	W24X68	.009	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4331	45	M63	W24X68	.000	0	.003	0	y	258.5051	904.5	91.875	345.3667	1	H1-1b

Member AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	LC	Memb...	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[k]	phi*Pnt...	phi*Mnyy[k...	phi*Mnzz[...	Cb	Eqn
4332	45	M64	W24X68	.000	0	.000	0	z	258.7554	904.5	91.875	345.6472	1	H1-1b
4333	45	M65	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4334	45	M66	W24X68	.000	0	.000	0	y	101.4197	904.5	91.875	165.9175	1	H1-1b
4335	45	M67	W24X68	.000	0	.000	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4336	45	M68	W24X68	.000	0	.002	0	z	101.4197	904.5	91.875	165.9175	1	H1-1b
4337	45	M69	W24X68	.001	0	.000	0	y	112.1279	904.5	91.875	178.5703	1	H1-1b
4338	45	M70	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4339	45	M71	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4340	45	M72	W14X22	.000	0	.000	0	z	11.1491	292.05	16.4625	15.3772	1	H1-1b
4341	45	M73	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4342	45	M74	W14X22	.000	0	.000	0	y	11.1491	292.05	16.4625	15.3772	1	H1-1b
4343	45	M75	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4344	45	M76	W14X22	.000	0	.001	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4345	45	M77	W14X22	.000	0	.001	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4346	45	M78	W14X22	.000	0	.000	0	y	12.2021	292.05	16.4625	16.2479	1	H1-1b
4347	45	M79	W14X22	.000	0	.000	0	z	12.2021	292.05	16.4625	16.2479	1	H1-1b
4348	45	M80	W21X50	.503	16.5	.011	16.8438	y	35.8714	661.5	45.75	87.7381	1.3...	H1-1b
4349	45	M81	W18X35	.000	0	.000	0	y	26.6702	463.5	30.225	39.495	1	H1-1b
4350	45	M82	W18X35	.002	16.51	.000	0	y	88.0592	463.5	30.225	156.2323	1.6...	H1-1b
4351	45	M83	HSS6X6...	.007	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4352	45	M84	HSS6X6...	.006	0	.000	0	y	58.0266	313.40...	54.5408	54.5408	1	H1-1b
4353	45	M85	HSS8X8...	.000	0	.000	0	y	133.1778	428.91...	101.4764	101.4764	1	H1-1b
4354	45	M86	HSS8X8...	.001	0	.002	0	y	149.5381	428.91...	101.4764	101.4764	1	H1-1b
4355	45	M87	HSS4X4...	.071	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1b
4356	45	M88	HSS4X4...	.613	0	.000	0	y	32.2424	139.29...	16.1602	16.1602	1	H1-1a
4357	45	M89	HSS6X6...	.435	23.3416	.001	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1a
4358	45	M90	HSS6X6...	.325	0	.001	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1a
4359	45	M91	HSS6X6...	.102	23.3275	.000	0	y	82.3646	216.29...	38.6248	38.6248	1.6...	H1-1b
4360	45	M92	HSS6X6...	.091	0	.000	0	y	103.4111	216.29...	38.6248	38.6248	1.6...	H1-1b
4361	45	M93	HSS6X6...	.543	23.3416	.000	0	y	82.2648	216.29...	38.6248	38.6248	1.6...	H1-1a
4362	45	M94	HSS6X6...	.383	0	.000	0	y	103.5321	216.29...	38.6248	38.6248	1.6...	H1-1a
4363	45	M95	HSS6X6...	.712	0	.000	0	y	32.9259	216.29...	38.6248	38.6248	1	H1-1a
4364	45	M96	W24X68	.017	0	.000	0	y	618.0979	904.5	91.875	663.75	1.6...	H1-1b
4365	45	M97	W18X35	.003	0	.000	0	y	88.2729	463.5	30.225	156.5345	1.6...	H1-1b

Base Load Reactions

CIC – Battalion Headquarters; Ft. Lewis, Washington

Joint Reactions

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N1	0	-.0958	16.3142	0	0	NC
2	1	N2	2.4732	-.0025	13.1679	0	0	NC
3	1	N3	-2.4733	-.0017	16.7368	0	0	NC
4	1	N4	0	-.0014	19.9964	0	0	NC
5	1	N5	0	-.0015	19.9964	0	0	NC
6	1	N6	0	-.0012	19.9965	0	0	NC
7	1	N7	0	.0106	20.1531	0	0	NC
8	1	N8	.0013	-.0044	29.9563	0	0	NC
9	1	N9	.001	-.0006	23.2487	0	0	NC
10	1	N10	5.1911	-.0004	37.7139	0	0	NC
11	1	N11	-.0286	.0129	38.4968	0	0	NC
12	1	N12	.0017	-.0004	39.0588	0	0	NC
13	1	N13	.0017	-.0002	39.0587	0	0	NC
14	1	N14	.0017	-.8585	40.6312	0	0	NC
15	1	N16	.0009	-.0007	23.2478	0	0	NC
16	1	N17	.0012	-.0007	31.0065	0	0	NC
17	1	N18	.0011	-.2805	41.7733	0	0	NC
18	1	N19	4.0622	-.0003	36.0348	0	0	NC
19	1	N20	-9.2378	-.0003	45.4283	0	0	NC
20	1	N21	.0015	.005	39.2784	0	0	NC
21	1	N22	.0013	-.0096	16.4333	0	0	NC
22	1	N23	.0011	.0005	12.857	0	0	NC
23	1	N24	.0014	.0008	16.4255	0	0	NC
24	1	N25	-.0088	.0004	20.4508	0	0	NC
25	1	N26	.0017	.0012	20.4609	0	0	NC
26	1	N27	.0017	.001	19.9966	0	0	NC
27	1	N28	.0017	.0654	20.3277	0	0	NC
28	1	N15	.0012	1.1629	32.1496	0	0	NC
29	1	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
30	1	Totals:	0	0	750.3965			
31	1	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
32	2	N1	0	-.1032	17.8423	0	0	NC
33	2	N2	2.7117	-.0029	14.2828	0	0	NC
34	2	N3	-2.7117	-.002	18.236	0	0	NC
35	2	N4	0	-.0017	21.9246	0	0	NC
36	2	N5	0	-.0018	21.9246	0	0	NC
37	2	N6	0	-.0016	21.9247	0	0	NC
38	2	N7	0	.0077	21.8735	0	0	NC
39	2	N8	.0014	-.0045	33.0914	0	0	NC
40	2	N9	.0011	-.0007	26.0239	0	0	NC
41	2	N10	5.3062	-.0005	40.9891	0	0	NC
42	2	N11	-.0148	.0139	41.9331	0	0	NC
43	2	N12	.0018	-.0005	43.2142	0	0	NC
44	2	N13	.0018	-.0003	43.2141	0	0	NC
45	2	N14	.0018	-.8741	44.2131	0	0	NC
46	2	N16	.001	-.0007	26.023	0	0	NC
47	2	N17	.0013	-.0008	34.492	0	0	NC
48	2	N18	.0014	-.2981	45.5923	0	0	NC
49	2	N19	4.5418	-.0004	39.8711	0	0	NC
50	2	N20	-9.8475	-.0004	49.4247	0	0	NC
51	2	N21	.0016	.0049	42.9306	0	0	NC
52	2	N22	.0016	-.0057	17.764	0	0	NC
53	2	N23	.0013	.0007	14.0166	0	0	NC
54	2	N24	.0016	.0011	17.9692	0	0	NC
55	2	N25	-.0105	.0005	22.3124	0	0	NC
56	2	N26	.002	.0015	22.3245	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
57	2	N27	.002	.0011	21.9249	0	0	NC
58	2	N28	.002	.0694	22.1461	0	0	NC
59	2	N15	.0013	1.199	35.1517	0	0	NC
60	2	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
61	2	Totals:	0	0	822.6305			
62	2	COG (ft):	X: 87.0678	Y: 44.0392	Z: 22.3708			
63	3	N1	0	-.1503	26.328	0	0	NC
64	3	N2	4.0136	-.0058	20.8738	0	0	NC
65	3	N3	-4.0136	-.0042	26.7939	0	0	NC
66	3	N4	0	-.0037	32.4508	0	0	NC
67	3	N5	0	-.0041	32.4506	0	0	NC
68	3	N6	0	-.0038	32.4508	0	0	NC
69	3	N7	0	.0047	31.9907	0	0	NC
70	3	N8	.0026	-.0053	49.4066	0	0	NC
71	3	N9	.0021	-.0015	39.4367	0	0	NC
72	3	N10	7.1811	-.0013	60.0374	0	0	NC
73	3	N11	.0061	.0181	61.6109	0	0	NC
74	3	N12	.0034	-.0012	64.6321	0	0	NC
75	3	N13	.0034	-.0009	64.632	0	0	NC
76	3	N14	.0033	-1.1764	64.8646	0	0	NC
77	3	N16	.0018	-.0015	39.4351	0	0	NC
78	3	N17	.0024	-.0016	51.9053	0	0	NC
79	3	N18	.0032	-.4154	67.1149	0	0	NC
80	3	N19	6.8757	-.001	59.6395	0	0	NC
81	3	N20	-14.0902	-.0011	72.4914	0	0	NC
82	3	N21	.0029	.0047	63.3124	0	0	NC
83	3	N22	.0034	-.0003	25.854	0	0	NC
84	3	N23	.0028	.002	20.6082	0	0	NC
85	3	N24	.0036	.0026	26.5273	0	0	NC
86	3	N25	-.0229	.0012	32.8317	0	0	NC
87	3	N26	.0044	.0033	32.8581	0	0	NC
88	3	N27	.0044	.002	32.4515	0	0	NC
89	3	N28	.0043	.0988	32.5331	0	0	NC
90	3	N15	.0024	1.6418	51.8627	0	0	NC
91	3	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
92	3	Totals:	0	0	1217.3843			
93	3	COG (ft):	X: 86.9372	Y: 44.0265	Z: 22.5844			
94	4	N1	0	-.1058	24.4072	0	0	NC
95	4	N2	3.7329	-.0006	19.6534	0	0	NC
96	4	N3	-3.7327	.0013	25.2086	0	0	NC
97	4	N4	0	.0004	30.5002	0	0	NC
98	4	N5	0	.0002	30.5	0	0	NC
99	4	N6	0	.0011	30.5004	0	0	NC
100	4	N7	0	.0674	29.0295	0	0	NC
101	4	N8	.0023	-.0021	45.6955	0	0	NC
102	4	N9	.0018	.0005	36.1109	0	0	NC
103	4	N10	6.4686	.0018	55.0987	0	0	NC
104	4	N11	-.0015	.0218	53.3024	0	0	NC
105	4	N12	.003	.0026	59.3227	0	0	NC
106	4	N13	.003	.0033	59.3224	0	0	NC
107	4	N14	.003	-2.3432	60.8376	0	0	NC
108	4	N16	.0015	.0005	36.3856	0	0	NC
109	4	N17	.0019	.0011	47.9459	0	0	NC
110	4	N18	.0027	-4.2238	65.8655	0	0	NC
111	4	N19	6.4934	.0026	55.3954	0	0	NC
112	4	N20	-12.9842	.0035	66.9966	0	0	NC
113	4	N21	.0023	.0117	58.4626	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
114	4	N22	.003	.0351	24.5468	0	0	NC
115	4	N23	.0024	.0035	19.1115	0	0	NC
116	4	N24	.0031	.0044	24.5841	0	0	NC
117	4	N25	-.0197	.0041	30.4432	0	0	NC
118	4	N26	.0038	.0061	30.4659	0	0	NC
119	4	N27	.0037	.0055	30.0608	0	0	NC
120	4	N28	.0038	.1488	30.3946	0	0	NC
121	4	N15	.0019	.8015	47.538	0	0	NC
122	4	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
123	4	Totals:	0	-5.5466	1127.6861			
124	4	COG (ft):	X: 86.9588	Y: 44.0286	Z: 22.5487			
125	5	N1	.0005	-.1444	24.4215	0	0	NC
126	5	N2	3.4029	-.0051	18.874	0	0	NC
127	5	N3	-4.0332	-.0039	25.3554	0	0	NC
128	5	N4	.0005	-.0033	30.0617	0	0	NC
129	5	N5	.0005	-.0035	30.0617	0	0	NC
130	5	N6	.0005	-.003	30.0619	0	0	NC
131	5	N7	.0005	.0104	29.6228	0	0	NC
132	5	N8	.0034	-.0056	45.6812	0	0	NC
133	5	N9	.0027	-.0015	36.3863	0	0	NC
134	5	N10	6.067	-.0012	55.1045	0	0	NC
135	5	N11	-.0039	.0172	57.7286	0	0	NC
136	5	N12	.0044	-.001	59.7611	0	0	NC
137	5	N13	.0044	-.0005	59.7609	0	0	NC
138	5	N14	.0043	-1.2087	60.2443	0	0	NC
139	5	N16	.0024	-.0015	36.3847	0	0	NC
140	5	N17	.0032	-.0016	47.945	0	0	NC
141	5	N18	.004	-.3971	62.2279	0	0	NC
142	5	N19	5.4366	-.0007	53.6095	0	0	NC
143	5	N20	-13.9909	-.0007	68.7796	0	0	NC
144	5	N21	.0039	.0054	58.6632	0	0	NC
145	5	N22	.0035	-.0071	23.9392	0	0	NC
146	5	N23	.0028	.0014	19.1123	0	0	NC
147	5	N24	.0036	.0021	24.5851	0	0	NC
148	5	N25	-.6503	.001	30.1291	0	0	NC
149	5	N26	.0043	.0028	30.7827	0	0	NC
150	5	N27	.0042	.002	30.0623	0	0	NC
151	5	N28	.0042	.0968	30.194	0	0	NC
152	5	N15	.0032	1.6512	48.1456	0	0	NC
153	5	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
154	5	Totals:	-3.7108	0	1127.6861			
155	5	COG (ft):	X: 86.9588	Y: 44.0286	Z: 22.5487			
156	6	N1	0	-.0593	15.9196	0	0	NC
157	6	N2	2.431	.0006	13.0618	0	0	NC
158	6	N3	-2.4308	.0016	16.65	0	0	NC
159	6	N4	0	.001	19.9734	0	0	NC
160	6	N5	0	.001	19.9734	0	0	NC
161	6	N6	0	.0016	19.9737	0	0	NC
162	6	N7	0	.0689	18.9116	0	0	NC
163	6	N8	.0012	-.0015	29.3821	0	0	NC
164	6	N9	.0009	.0005	22.6988	0	0	NC
165	6	N10	4.5947	.0015	36.0509	0	0	NC
166	6	N11	-.0237	.016	33.6619	0	0	NC
167	6	N12	.0015	.0019	37.9054	0	0	NC
168	6	N13	.0015	.0023	37.9051	0	0	NC
169	6	N14	.0015	-2.0416	40.1868	0	0	NC
170	6	N16	.0007	.0005	22.9733	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
171	6	N17	.001	.0009	30.5324	0	0	NC
172	6	N18	.0013	-4.0687	44.306	0	0	NC
173	6	N19	4.1589	.0019	35.6256	0	0	NC
174	6	N20	-8.7418	.0025	43.9303	0	0	NC
175	6	N21	.0012	.011	38.0815	0	0	NC
176	6	N22	.0013	.0294	16.4618	0	0	NC
177	6	N23	.001	.0018	12.52	0	0	NC
178	6	N24	.0013	.0022	16.0262	0	0	NC
179	6	N25	-.0084	.0024	19.9237	0	0	NC
180	6	N26	.0016	.0033	19.9333	0	0	NC
181	6	N27	.0016	.0034	19.5347	0	0	NC
182	6	N28	.0016	.1178	20.007	0	0	NC
183	6	N15	.0009	.3505	30.822	0	0	NC
184	6	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
185	6	Totals:	0	-5.5466	732.9323			
186	6	COG (ft):	X: 87.1171	Y: 44.044	Z: 22.2896			
187	7	N1	.0003	-.0973	15.9348	0	0	NC
188	7	N2	2.1015	-.0025	12.2839	0	0	NC
189	7	N3	-2.7308	-.0017	16.7966	0	0	NC
190	7	N4	.0003	-.0014	19.5355	0	0	NC
191	7	N5	.0003	-.0014	19.5355	0	0	NC
192	7	N6	.0003	-.0011	19.5357	0	0	NC
193	7	N7	.0003	.0132	19.5067	0	0	NC
194	7	N8	.0019	-.0046	29.3669	0	0	NC
195	7	N9	.0015	-.0007	22.9736	0	0	NC
196	7	N10	4.1894	-.0005	36.0531	0	0	NC
197	7	N11	-.0266	.0126	38.0549	0	0	NC
198	7	N12	.0025	-.0003	38.3432	0	0	NC
199	7	N13	.0025	0	38.3431	0	0	NC
200	7	N14	.0024	-.9042	39.5917	0	0	NC
201	7	N16	.0013	-.0007	22.9727	0	0	NC
202	7	N17	.0017	-.0007	30.5317	0	0	NC
203	7	N18	.0019	-.2787	40.7044	0	0	NC
204	7	N19	3.1068	-.0002	33.8487	0	0	NC
205	7	N20	-9.7444	-.0002	45.7053	0	0	NC
206	7	N21	.0021	.0053	38.2823	0	0	NC
207	7	N22	.0016	-.0123	15.8498	0	0	NC
208	7	N23	.0013	.0004	12.5206	0	0	NC
209	7	N24	.0016	.0007	16.0269	0	0	NC
210	7	N25	-.6379	.0003	19.6097	0	0	NC
211	7	N26	.002	.0011	20.2491	0	0	NC
212	7	N27	.0019	.0011	19.5357	0	0	NC
213	7	N28	.0019	.0672	19.8062	0	0	NC
214	7	N15	.0018	1.2066	31.434	0	0	NC
215	7	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
216	7	Totals:	-3.7108	0	732.9323			
217	7	COG (ft):	X: 87.1171	Y: 44.044	Z: 22.2896			
218	8	N1	0	.2406	14.2351	0	0	NC
219	8	N2	2.357	.0169	12.4932	0	0	NC
220	8	N3	-2.357	.0199	15.9108	0	0	NC
221	8	N4	0	.0254	19.0648	0	0	NC
222	8	N5	0	.0233	19.0639	0	0	NC
223	8	N6	0	.0239	19.0642	0	0	NC
224	8	N7	0	.25	-3.4474	0	0	NC
225	8	N8	0	.02	29.9347	0	0	NC
226	8	N9	0	.0171	22.358	0	0	NC
227	8	N10	3.0089	.0259	34.2235	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
228	8	N11	-.0517	.0258	-11.5598	0	0	NC
229	8	N12	0	.0274	37.3628	0	0	NC
230	8	N13	0	.0268	37.3625	0	0	NC
231	8	N14	0	-42.4906	61.1425	0	0	NC
232	8	N16	.0003	.0171	22.3733	0	0	NC
233	8	N17	.0003	.0227	29.7517	0	0	NC
234	8	N18	.0059	-52.5271	89.4104	0	0	NC
235	8	N19	4.8394	.0259	36.0645	0	0	NC
236	8	N20	-7.803	.0296	41.5698	0	0	NC
237	8	N21	.0004	.0259	36.338	0	0	NC
238	8	N22	.0027	.4248	35.3943	0	0	NC
239	8	N23	.001	.02	12.2108	0	0	NC
240	8	N24	.0012	.0219	15.6264	0	0	NC
241	8	N25	-.0094	.0267	19.4314	0	0	NC
242	8	N26	.0015	.0263	19.4425	0	0	NC
243	8	N27	.0015	.026	19.0436	0	0	NC
244	8	N28	.0016	.3367	20.3473	0	0	NC
245	8	N15	-.0005	-34.0786	10.7575	0	0	NC
246	8	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
247	8	Totals:	0	-127.3499	714.9704			
248	8	COG (ft):	X: 87.1284	Y: 44.0451	Z: 22.2716			
249	9	N1	.0094	-.2548	16.1851	0	0	NC
250	9	N2	-8.1695	-.0006	-4.3261	0	0	NC
251	9	N3	-12.863	-.0116	32.7099	0	0	NC
252	9	N4	.0106	-.0038	19.0527	0	0	NC
253	9	N5	.0107	0	19.0543	0	0	NC
254	9	N6	.0107	.0036	19.0558	0	0	NC
255	9	N7	.0094	.1741	16.6635	0	0	NC
256	9	N8	.0247	-.0177	27.9847	0	0	NC
257	9	N9	.0198	-.0045	22.3684	0	0	NC
258	9	N10	-19.247	-.0026	14.8188	0	0	NC
259	9	N11	-.2055	.0084	57.2685	0	0	NC
260	9	N12	.033	.0011	37.3725	0	0	NC
261	9	N13	.033	.0044	37.371	0	0	NC
262	9	N14	.0345	-4.2329	41.0317	0	0	NC
263	9	N16	.018	-.0045	22.3631	0	0	NC
264	9	N17	.024	-.0043	29.7415	0	0	NC
265	9	N18	.0278	-.5569	39.9971	0	0	NC
266	9	N19	-27.5611	-.003	-18.5987	0	0	NC
267	9	N20	-38.6319	.0086	96.2144	0	0	NC
268	9	N21	.029	.0221	36.7539	0	0	NC
269	9	N22	.0086	-.1931	12.8463	0	0	NC
270	9	N23	.0082	-.0045	12.2209	0	0	NC
271	9	N24	.0105	-.0026	15.6365	0	0	NC
272	9	N25	-21.051	-.0009	8.9214	0	0	NC
273	9	N26	.0181	-.0003	29.9748	0	0	NC
274	9	N27	.0115	.0069	19.0515	0	0	NC
275	9	N28	.012	.2173	19.9314	0	0	NC
276	9	N15	.0257	4.8523	33.3055	0	0	NC
277	9	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
278	9	Totals:	-127.3397	0	714.9704			
279	9	COG (ft):	X: 87.1284	Y: 44.0451	Z: 22.2716			
280	10	N1	0	-.4657	16.9896	0	0	NC
281	10	N2	2.3564	-.0214	12.4776	0	0	NC
282	10	N3	-2.3561	-.0225	15.893	0	0	NC
283	10	N4	0	-.0277	19.0429	0	0	NC
284	10	N5	0	-.0259	19.0436	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
285	10	N6	0	-.0264	19.0434	0	0	NC
286	10	N7	0	-.2756	41.7896	0	0	NC
287	10	N8	.0021	-.0307	27.1802	0	0	NC
288	10	N9	.0017	-.0179	22.3739	0	0	NC
289	10	N10	6.6609	-.0286	37.4307	0	0	NC
290	10	N11	.0048	-.0671	84.2565	0	0	NC
291	10	N12	.0028	-.0281	37.3832	0	0	NC
292	10	N13	.0028	-.0274	37.3834	0	0	NC
293	10	N14	.0026	41.1181	15.9055	0	0	NC
294	10	N16	.0013	-.0179	22.3573	0	0	NC
295	10	N17	.0017	-.0235	29.7343	0	0	NC
296	10	N18	-.0013	51.6657	-9.5953	0	0	NC
297	10	N19	2.9316	-.024	32.8284	0	0	NC
298	10	N20	-9.6153	-.0327	44.7643	0	0	NC
299	10	N21	.0022	-.0189	38.4426	0	0	NC
300	10	N22	-.0004	-.3926	-4.3466	0	0	NC
301	10	N23	.001	-.0186	12.2268	0	0	NC
302	10	N24	.0012	-.0201	15.6437	0	0	NC
303	10	N25	-.0078	-.0257	19.4539	0	0	NC
304	10	N26	.0015	-.0241	19.4625	0	0	NC
305	10	N27	.0015	-.0244	19.0644	0	0	NC
306	10	N28	.0014	-.2201	18.2427	0	0	NC
307	10	N15	.0033	36.474	50.4983	0	0	NC
308	10	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
309	10	Totals:	0	127.3499	714.9704			
310	10	COG (ft):	X: 87.1284	Y: 44.0451	Z: 22.2716			
311	11	N1	-.0084	.0744	14.8655	0	0	NC
312	11	N2	12.865	.0051	29.2961	0	0	NC
313	11	N3	8.1678	-.0004	-.9054	0	0	NC
314	11	N4	-.011	.0012	19.0548	0	0	NC
315	11	N5	-.0111	-.0026	19.0532	0	0	NC
316	11	N6	-.0111	-.0059	19.0519	0	0	NC
317	11	N7	-.0126	-.1585	21.5806	0	0	NC
318	11	N8	-.0233	.0096	29.3043	0	0	NC
319	11	N9	-.0181	.0034	22.3639	0	0	NC
320	11	N10	28.6345	.0039	56.6793	0	0	NC
321	11	N11	.2577	.0147	15.9485	0	0	NC
322	11	N12	-.0302	-.0018	37.3735	0	0	NC
323	11	N13	-.0302	-.0048	37.3749	0	0	NC
324	11	N14	-.0282	2.6751	36.1146	0	0	NC
325	11	N16	-.0165	.0034	22.3673	0	0	NC
326	11	N17	-.0219	.0031	29.7444	0	0	NC
327	11	N18	-.0248	.0185	39.4535	0	0	NC
328	11	N19	35.3718	-.0067	87.65	0	0	NC
329	11	N20	21.3592	0	-10.0384	0	0	NC
330	11	N21	-.0273	-.0128	37.9966	0	0	NC
331	11	N22	-.0082	.18	18.2774	0	0	NC
332	11	N23	-.0054	.0055	12.2168	0	0	NC
333	11	N24	-.0069	.0042	15.6337	0	0	NC
334	11	N25	21.0201	.0032	29.963	0	0	NC
335	11	N26	-.0039	.001	8.931	0	0	NC
336	11	N27	-.0085	-.0051	19.0565	0	0	NC
337	11	N28	-.0084	-.0956	18.6887	0	0	NC
338	11	N15	-.0201	-2.712	27.8745	0	0	NC
339	11	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
340	11	Totals:	127.3397	0	714.9704			
341	11	COG (ft):	X: 87.1284	Y: 44.0451	Z: 22.2716			

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
342	12	N1	0	.1107	2.7882	0	0	NC
343	12	N2	.467	.0032	3.5773	0	0	NC
344	12	N3	-.4666	.0028	4.4118	0	0	NC
345	12	N4	0	.0022	5.0475	0	0	NC
346	12	N5	0	.0023	5.0474	0	0	NC
347	12	N6	0	.0036	5.0479	0	0	NC
348	12	N7	0	.2428	1.1048	0	0	NC
349	12	N8	0	.0072	4.4293	0	0	NC
350	12	N9	0	.0003	1.6484	0	0	NC
351	12	N10	.5025	.001	4.5008	0	0	NC
352	12	N11	-.0601	.0059	-8.1301	0	0	NC
353	12	N12	0	.0009	3.8767	0	0	NC
354	12	N13	0	.0011	3.8762	0	0	NC
355	12	N14	.0001	-5.2264	10.0178	0	0	NC
356	12	N16	0	.0005	2.745	0	0	NC
357	12	N17	0	.0008	4.0925	0	0	NC
358	12	N18	.0015	-15.0451	21.4976	0	0	NC
359	12	N19	1.0751	.0016	6.1727	0	0	NC
360	12	N20	-1.5198	.0015	7.2311	0	0	NC
361	12	N21	0	.0221	5.857	0	0	NC
362	12	N22	0	.1319	5.3848	0	0	NC
363	12	N23	0	.0016	2.2801	0	0	NC
364	12	N24	0	.0009	2.7891	0	0	NC
365	12	N25	-.0003	.0013	3.5929	0	0	NC
366	12	N26	0	.0015	3.5931	0	0	NC
367	12	N27	0	.0025	3.2974	0	0	NC
368	12	N28	0	.227	4.5082	0	0	NC
369	12	N15	0	-2.6919	3.3193	0	0	NC
370	12	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
371	12	Totals:	0	-22.1862	123.6049			
372	12	COG (ft):	X: 88.6754	Y: 44.1956	Z: 19.7272			
373	13	N1	.0002	-.0373	2.8544	0	0	NC
374	13	N2	-.848	-.0003	.4746	0	0	NC
375	13	N3	-1.6639	-.0002	4.9962	0	0	NC
376	13	N4	.0002	0	3.2984	0	0	NC
377	13	N5	.0002	0	3.2984	0	0	NC
378	13	N6	.0002	.0002	3.2985	0	0	NC
379	13	N7	.0002	.0271	3.4955	0	0	NC
380	13	N8	.0004	-.0026	4.3632	0	0	NC
381	13	N9	.0003	0	2.7445	0	0	NC
382	13	N10	-1.1398	0	4.4886	0	0	NC
383	13	N11	-.0749	.0023	9.2476	0	0	NC
384	13	N12	.0006	0	5.6256	0	0	NC
385	13	N13	.0006	.0001	5.6256	0	0	NC
386	13	N14	.0007	-.6601	7.6271	0	0	NC
387	13	N16	.0003	0	2.7442	0	0	NC
388	13	N17	.0004	0	4.0921	0	0	NC
389	13	N18	-.0004	-.1016	7.3029	0	0	NC
390	13	N19	-3.1055	.0001	-.8813	0	0	NC
391	13	N20	-5.5052	0	14.2835	0	0	NC
392	13	N21	.0006	.0034	6.6606	0	0	NC
393	13	N22	.0003	-.0316	2.9118	0	0	NC
394	13	N23	.0002	-.0003	2.2809	0	0	NC
395	13	N24	.0003	0	2.7895	0	0	NC
396	13	N25	-2.5125	0	2.3373	0	0	NC
397	13	N26	.0004	0	4.8499	0	0	NC
398	13	N27	.0002	.0003	3.2983	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
399	13	N28	.0003	.0319	3.7046	0	0	NC
400	13	N15	.0005	.7691	5.7923	0	0	NC
401	13	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
402	13	Totals:	-14.8431	0	123.6049			
403	13	COG (ft):	X: 88.6754	Y: 44.1956	Z: 19.7272			
404	14	N1	0	.2627	9.1938	0	0	NC
405	14	N2	1.5902	.0124	8.4709	0	0	NC
406	14	N3	-1.5901	.0137	10.7654	0	0	NC
407	14	N4	0	.0173	12.8624	0	0	NC
408	14	N5	0	.0159	12.8618	0	0	NC
409	14	N6	0	.0167	12.8621	0	0	NC
410	14	N7	0	.2399	-9.5939	0	0	NC
411	14	N8	-.0002	.0133	20.5516	0	0	NC
412	14	N9	-.0002	.0115	14.9398	0	0	NC
413	14	N10	1.5617	.0173	22.685	0	0	NC
414	14	N11	-.0496	.013	-23.1975	0	0	NC
415	14	N12	-.0003	.0184	25.1022	0	0	NC
416	14	N13	-.0003	.018	25.1019	0	0	NC
417	14	N14	-.0003	-42.2385	48.6695	0	0	NC
418	14	N16	0	.0115	14.9508	0	0	NC
419	14	N17	0	.0153	19.9385	0	0	NC
420	14	N18	.0045	-52.2528	76.3529	0	0	NC
421	14	N19	3.5402	.0176	24.7384	0	0	NC
422	14	N20	-5.0551	.0196	27.6446	0	0	NC
423	14	N21	0	.0152	24.215	0	0	NC
424	14	N22	.0015	.4197	30.4089	0	0	NC
425	14	N23	.0004	.0143	8.2595	0	0	NC
426	14	N24	.0006	.0145	10.5535	0	0	NC
427	14	N25	-.0047	.0178	13.1403	0	0	NC
428	14	N26	.0007	.0174	13.1459	0	0	NC
429	14	N27	.0007	.0177	12.8479	0	0	NC
430	14	N28	.0007	.3091	14.1032	0	0	NC
431	14	N15	-.0005	-34.4183	.823	0	0	NC
432	14	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
433	14	Totals:	0	-127.3499	482.3977			
434	14	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
435	15	N1	.0065	-.2226	11.1424	0	0	NC
436	15	N2	-8.9274	.001	-8.3284	0	0	NC
437	15	N3	-12.0882	-.0089	27.5507	0	0	NC
438	15	N4	.0071	-.0023	12.8543	0	0	NC
439	15	N5	.0072	.0002	12.8553	0	0	NC
440	15	N6	.0072	.0029	12.8564	0	0	NC
441	15	N7	.0059	.1687	10.5254	0	0	NC
442	15	N8	.0161	-.0155	18.603	0	0	NC
443	15	N9	.013	-.0029	14.9473	0	0	NC
444	15	N10	-20.6915	-.0011	3.2769	0	0	NC
445	15	N11	-.2277	.006	45.4272	0	0	NC
446	15	N12	.0218	.0008	25.1087	0	0	NC
447	15	N13	.0218	.003	25.1076	0	0	NC
448	15	N14	.0234	-3.967	28.5502	0	0	NC
449	15	N16	.0119	-.0029	14.9434	0	0	NC
450	15	N17	.0158	-.0027	19.9317	0	0	NC
451	15	N18	.0173	-.4862	27.1431	0	0	NC
452	15	N19	-28.8017	-.0032	-29.812	0	0	NC
453	15	N20	-35.833	.0071	82.1825	0	0	NC
454	15	N21	.0191	.0198	24.6366	0	0	NC
455	15	N22	.005	-.1889	7.869	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
456	15	N23	.0053	-.0036	8.2669	0	0	NC
457	15	N24	.0068	-.0019	10.5603	0	0	NC
458	15	N25	-21.0281	-.0004	2.6368	0	0	NC
459	15	N26	.0137	-.0007	23.6645	0	0	NC
460	15	N27	.0074	.0046	12.8533	0	0	NC
461	15	N28	.0079	.1942	13.6816	0	0	NC
462	15	N15	.0176	4.5024	23.3629	0	0	NC
463	15	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
464	15	Totals:	-127.3397	0	482.3977			
465	15	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
466	16	N1	0	-.4299	11.9541	0	0	NC
467	16	N2	1.5898	-.0149	8.4598	0	0	NC
468	16	N3	-1.5895	-.0148	10.7535	0	0	NC
469	16	N4	0	-.0183	12.8477	0	0	NC
470	16	N5	0	-.0171	12.8482	0	0	NC
471	16	N6	0	-.0178	12.8479	0	0	NC
472	16	N7	0	-.2688	35.6219	0	0	NC
473	16	N8	.0012	-.0228	17.7913	0	0	NC
474	16	N9	.0009	-.0118	14.9511	0	0	NC
475	16	N10	5.1976	-.0196	25.8747	0	0	NC
476	16	N11	.0053	-.0608	72.2419	0	0	NC
477	16	N12	.0016	-.0187	25.1159	0	0	NC
478	16	N13	.0016	-.0182	25.1162	0	0	NC
479	16	N14	.0014	41.3463	3.4537	0	0	NC
480	16	N16	.0007	-.0118	14.9393	0	0	NC
481	16	N17	.001	-.0155	19.9269	0	0	NC
482	16	N18	-.0013	51.5506	-22.2641	0	0	NC
483	16	N19	1.6451	-.0155	21.5294	0	0	NC
484	16	N20	-6.8575	-.0223	30.8254	0	0	NC
485	16	N21	.0013	-.0101	26.3209	0	0	NC
486	16	N22	-.0005	-.385	-9.3459	0	0	NC
487	16	N23	.0004	-.0135	8.271	0	0	NC
488	16	N24	.0006	-.0137	10.5651	0	0	NC
489	16	N25	-.0036	-.0173	13.1554	0	0	NC
490	16	N26	.0007	-.0164	13.1594	0	0	NC
491	16	N27	.0007	-.0169	12.8622	0	0	NC
492	16	N28	.0006	-.2313	11.9973	0	0	NC
493	16	N15	.002	36.1562	40.5778	0	0	NC
494	16	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
495	16	Totals:	0	127.3499	482.3977			
496	16	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
497	17	N1	-.0055	.1005	9.8305	0	0	NC
498	17	N2	12.0894	.0055	25.2583	0	0	NC
499	17	N3	8.9261	-.0014	-6.031	0	0	NC
500	17	N4	-.0074	.0011	12.8557	0	0	NC
501	17	N5	-.0075	-.0014	12.8546	0	0	NC
502	17	N6	-.0075	-.0039	12.8536	0	0	NC
503	17	N7	-.009	-.1567	15.4039	0	0	NC
504	17	N8	-.0159	.0096	19.9149	0	0	NC
505	17	N9	-.0122	.0024	14.9438	0	0	NC
506	17	N10	27.171	.0031	45.1283	0	0	NC
507	17	N11	.2817	.0102	4.1377	0	0	NC
508	17	N12	-.0205	-.0011	25.1094	0	0	NC
509	17	N13	-.0205	-.0031	25.1104	0	0	NC
510	17	N14	-.0186	2.8887	23.6717	0	0	NC
511	17	N16	-.0111	.0024	14.9466	0	0	NC
512	17	N17	-.0148	.0022	19.9336	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
513	17	N18	-.0156	.1095	26.5794	0	0	NC
514	17	N19	34.0259	-.0057	76.2367	0	0	NC
515	17	N20	24.065	.0014	-23.8692	0	0	NC
516	17	N21	-.0187	-.0125	25.8691	0	0	NC
517	17	N22	-.0063	.1781	13.2709	0	0	NC
518	17	N23	-.0039	.004	8.2637	0	0	NC
519	17	N24	-.005	.0026	10.5584	0	0	NC
520	17	N25	21.0069	.0023	23.6587	0	0	NC
521	17	N26	-.0012	.0002	2.6411	0	0	NC
522	17	N27	-.006	-.0037	12.8568	0	0	NC
523	17	N28	-.0059	-.1114	12.4491	0	0	NC
524	17	N15	-.0131	-3.0225	17.961	0	0	NC
525	17	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
526	17	Totals:	127.3397	0	482.3977			
527	17	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
528	18	N1	0	-.1089	19.3762	0	0	NC
529	18	N2	2.9498	-.0007	15.3989	0	0	NC
530	18	N3	-2.9499	0	19.7361	0	0	NC
531	18	N4	0	0	23.8536	0	0	NC
532	18	N5	0	0	23.8536	0	0	NC
533	18	N6	0	0	23.8536	0	0	NC
534	18	N7	0	.005	23.5987	0	0	NC
535	18	N8	0	-.0059	36.2205	0	0	NC
536	18	N9	0	0	28.7981	0	0	NC
537	18	N10	5.4342	.0005	44.2762	0	0	NC
538	18	N11	-.0037	.0193	45.3379	0	0	NC
539	18	N12	0	0	47.3687	0	0	NC
540	18	N13	0	0	47.3687	0	0	NC
541	18	N14	0	-.8905	47.7902	0	0	NC
542	18	N16	0	0	28.7978	0	0	NC
543	18	N17	0	0	37.9769	0	0	NC
544	18	N18	0	-.3369	49.4288	0	0	NC
545	18	N19	5.0237	.0001	43.7126	0	0	NC
546	18	N20	-10.4542	0	53.4148	0	0	NC
547	18	N21	0	.0082	46.5792	0	0	NC
548	18	N22	0	-.001	19.1003	0	0	NC
549	18	N23	0	0	15.1766	0	0	NC
550	18	N24	0	0	19.5134	0	0	NC
551	18	N25	0	0	24.1816	0	0	NC
552	18	N26	0	0	24.1815	0	0	NC
553	18	N27	0	.0003	23.8535	0	0	NC
554	18	N28	0	.0731	23.9682	0	0	NC
555	18	N15	0	1.237	38.1482	0	0	NC
556	18	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
557	18	Totals:	0	0	894.8645			
558	18	COG (ft):	X: 86.9735	Y: 44.03	Z: 22.5249			
559	19	N1	0	.0394	6.8413	0	0	NC
560	19	N2	1.0646	.0003	6.3502	0	0	NC
561	19	N3	-1.0646	0	7.9873	0	0	NC
562	19	N4	0	0	9.403	0	0	NC
563	19	N5	0	0	9.403	0	0	NC
564	19	N6	0	.0007	9.4033	0	0	NC
565	19	N7	0	.1542	6.9904	0	0	NC
566	19	N8	0	.0026	12.1292	0	0	NC
567	19	N9	0	0	8.2959	0	0	NC
568	19	N10	1.9394	.0003	14.6019	0	0	NC
569	19	N11	-.047	.0097	6.9661	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
570	19	N12	0	0	14.6293	0	0	NC
571	19	N13	0	0	14.629	0	0	NC
572	19	N14	0	-3.5347	18.9564	0	0	NC
573	19	N16	0	0	8.9803	0	0	NC
574	19	N17	0	0	12.247	0	0	NC
575	19	N18	-.0006	-9.4728	26.4704	0	0	NC
576	19	N19	1.943	.0002	15.1218	0	0	NC
577	19	N20	-3.8348	-.0001	18.7118	0	0	NC
578	19	N21	0	.0157	15.934	0	0	NC
579	19	N22	0	.0793	8.506	0	0	NC
580	19	N23	0	.0006	5.4431	0	0	NC
581	19	N24	0	0	6.8765	0	0	NC
582	19	N25	0	0	8.6386	0	0	NC
583	19	N26	0	0	8.6385	0	0	NC
584	19	N27	0	.0007	8.3103	0	0	NC
585	19	N28	0	.161	9.1712	0	0	NC
586	19	N15	0	-1.3236	12.1163	0	0	NC
587	19	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
588	19	Totals:	0	-13.8664	311.7519			
589	19	COG (ft):	X: 87.5507	Y: 44.0862	Z: 21.5774			
590	20	N1	0	-.0527	6.8832	0	0	NC
591	20	N2	.2433	-.0004	4.4126	0	0	NC
592	20	N3	-1.8125	0	8.3524	0	0	NC
593	20	N4	0	0	8.3106	0	0	NC
594	20	N5	0	0	8.3106	0	0	NC
595	20	N6	0	0	8.3106	0	0	NC
596	20	N7	0	.02	8.4855	0	0	NC
597	20	N8	0	-.0032	12.0874	0	0	NC
598	20	N9	0	0	8.9802	0	0	NC
599	20	N10	.9106	.0002	14.5901	0	0	NC
600	20	N11	-.0601	.0066	17.8054	0	0	NC
601	20	N12	0	0	15.7217	0	0	NC
602	20	N13	0	0	15.7217	0	0	NC
603	20	N14	0	-.6784	17.4613	0	0	NC
604	20	N16	0	0	8.98	0	0	NC
605	20	N17	0	0	12.247	0	0	NC
606	20	N18	-.0008	-.1571	17.6235	0	0	NC
607	20	N19	-.6657	.0001	10.7204	0	0	NC
608	20	N20	-6.3225	0	23.1129	0	0	NC
609	20	N21	0	.0044	16.4371	0	0	NC
610	20	N22	0	-.0224	6.9578	0	0	NC
611	20	N23	0	-.0002	5.4434	0	0	NC
612	20	N24	0	0	6.8765	0	0	NC
613	20	N25	-1.5692	0	7.8539	0	0	NC
614	20	N26	0	0	9.4232	0	0	NC
615	20	N27	0	.0002	8.3105	0	0	NC
616	20	N28	0	.04	8.6681	0	0	NC
617	20	N15	0	.8427	13.6644	0	0	NC
618	20	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
619	20	Totals:	-9.2769	0	311.7519			
620	20	COG (ft):	X: 87.5507	Y: 44.0862	Z: 21.5774			
621	21	N1	0	.15	10.7486	0	0	NC
622	21	N2	1.7665	.0011	9.4068	0	0	NC
623	21	N3	-1.7665	0	11.9553	0	0	NC
624	21	N4	0	0	14.2836	0	0	NC
625	21	N5	0	0	14.2836	0	0	NC
626	21	N6	0	.0008	14.2839	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
627	21	N7	0	.1705	-1.3677	0	0	NC
628	21	N8	0	-.0043	22.3018	0	0	NC
629	21	N9	0	0	16.605	0	0	NC
630	21	N10	2.4771	.0006	25.8602	0	0	NC
631	21	N11	-.0405	.0237	-5.8089	0	0	NC
632	21	N12	0	0	27.8987	0	0	NC
633	21	N13	0	0	27.8984	0	0	NC
634	21	N14	0	-29.7872	44.785	0	0	NC
635	21	N16	0	0	16.6063	0	0	NC
636	21	N17	0	0	22.1472	0	0	NC
637	21	N18	-.0006	-36.4079	64.2219	0	0	NC
638	21	N19	3.5468	0	26.8288	0	0	NC
639	21	N20	-5.9828	.0001	31.3589	0	0	NC
640	21	N21	0	-.0003	27.3276	0	0	NC
641	21	N22	0	.2735	25.644	0	0	NC
642	21	N23	0	.0019	9.1829	0	0	NC
643	21	N24	0	0	11.7327	0	0	NC
644	21	N25	0	0	14.6116	0	0	NC
645	21	N26	0	0	14.6115	0	0	NC
646	21	N27	0	.001	14.2832	0	0	NC
647	21	N28	0	.2212	15.2482	0	0	NC
648	21	N15	0	-23.7898	9.0581	0	0	NC
649	21	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
650	21	Totals:	0	-89.1449	535.9975			
651	21	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
652	22	N1	0	-.1762	12.1094	0	0	NC
653	22	N2	-5.5766	-.0012	-2.3231	0	0	NC
654	22	N3	-9.1096	0	23.6843	0	0	NC
655	22	N4	0	0	14.2836	0	0	NC
656	22	N5	0	0	14.2836	0	0	NC
657	22	N6	0	.0005	14.2838	0	0	NC
658	22	N7	.0001	.1163	12.719	0	0	NC
659	22	N8	0	-.011	20.9411	0	0	NC
660	22	N9	0	0	16.606	0	0	NC
661	22	N10	-13.0282	.0006	12.2974	0	0	NC
662	22	N11	-.2372	.0116	41.916	0	0	NC
663	22	N12	0	0	27.8987	0	0	NC
664	22	N13	0	0	27.8985	0	0	NC
665	22	N14	0	-2.9736	30.6984	0	0	NC
666	22	N16	0	0	16.6051	0	0	NC
667	22	N17	0	0	22.1472	0	0	NC
668	22	N18	-.003	-.4354	30.0598	0	0	NC
669	22	N19	-19.0068	.0008	-11.224	0	0	NC
670	22	N20	-27.4904	-.0006	69.4116	0	0	NC
671	22	N21	0	.0147	27.6305	0	0	NC
672	22	N22	0	-.1305	9.8718	0	0	NC
673	22	N23	0	-.0009	9.1841	0	0	NC
674	22	N24	0	0	11.7327	0	0	NC
675	22	N25	-14.6861	0	7.2685	0	0	NC
676	22	N26	0	0	21.9546	0	0	NC
677	22	N27	0	.0006	14.2833	0	0	NC
678	22	N28	0	.1483	14.9453	0	0	NC
679	22	N15	0	3.4359	24.8303	0	0	NC
680	22	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
681	22	Totals:	-89.1378	0	535.9975			
682	22	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
683	23	N1	0	-.3152	12.6888	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
684	23	N2	1.7665	-.0022	9.4054	0	0	NC
685	23	N3	-1.7665	0	11.9554	0	0	NC
686	23	N4	0	0	14.2836	0	0	NC
687	23	N5	0	0	14.2836	0	0	NC
688	23	N6	0	-.0007	14.2833	0	0	NC
689	23	N7	0	-.1613	30.2524	0	0	NC
690	23	N8	0	-.0086	20.3616	0	0	NC
691	23	N9	0	0	16.6064	0	0	NC
692	23	N10	4.9991	0	28.0664	0	0	NC
693	23	N11	-.0087	-.0007	60.4676	0	0	NC
694	23	N12	0	0	27.8987	0	0	NC
695	23	N13	0	0	27.899	0	0	NC
696	23	N14	0	28.6864	13.1649	0	0	NC
697	23	N16	0	0	16.6047	0	0	NC
698	23	N17	0	0	22.1472	0	0	NC
699	23	N18	0	35.7045	-4.2608	0	0	NC
700	23	N19	2.2392	.0002	24.6227	0	0	NC
701	23	N20	-7.2296	0	33.5643	0	0	NC
702	23	N21	0	.0103	28.8037	0	0	NC
703	23	N22	0	-.2714	-2.2001	0	0	NC
704	23	N23	0	-.0019	9.1845	0	0	NC
705	23	N24	0	0	11.7328	0	0	NC
706	23	N25	0	0	14.6116	0	0	NC
707	23	N26	0	0	14.6116	0	0	NC
708	23	N27	0	-.0006	14.2838	0	0	NC
709	23	N28	0	-.1338	13.7721	0	0	NC
710	23	N15	0	25.6401	36.9023	0	0	NC
711	23	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
712	23	Totals:	0	89.1449	535.9975			
713	23	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
714	24	N1	0	.0414	11.2017	0	0	NC
715	24	N2	9.1095	.0003	21.1354	0	0	NC
716	24	N3	5.5766	0	.2264	0	0	NC
717	24	N4	0	0	14.2836	0	0	NC
718	24	N5	0	0	14.2836	0	0	NC
719	24	N6	0	-.0005	14.2834	0	0	NC
720	24	N7	0	-.1016	16.08	0	0	NC
721	24	N8	0	.0034	21.8487	0	0	NC
722	24	N9	0	0	16.6053	0	0	NC
723	24	N10	20.4455	0	41.5778	0	0	NC
724	24	N11	.1873	.0114	13.0592	0	0	NC
725	24	N12	0	0	27.8987	0	0	NC
726	24	N13	0	0	27.8989	0	0	NC
727	24	N14	0	1.7522	27.3373	0	0	NC
728	24	N16	0	0	16.6058	0	0	NC
729	24	N17	0	0	22.1472	0	0	NC
730	24	N18	.0023	.0111	29.6363	0	0	NC
731	24	N19	24.8234	-.0006	62.7271	0	0	NC
732	24	N20	14.3071	.0006	-4.5399	0	0	NC
733	24	N21	0	-.0042	28.4791	0	0	NC
734	24	N22	0	.1179	13.6125	0	0	NC
735	24	N23	0	.0008	9.1834	0	0	NC
736	24	N24	0	0	11.7327	0	0	NC
737	24	N25	14.6862	0	21.9546	0	0	NC
738	24	N26	0	0	7.2685	0	0	NC
739	24	N27	0	-.0002	14.2837	0	0	NC
740	24	N28	0	-.0557	14.0967	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
741	24	N15	0	-1.7764	21.0896	0	0	NC
742	24	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
743	24	Totals:	89.1378	0	535.9975			
744	24	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
745	25	N1	0	.0646	16.7659	0	0	NC
746	25	N2	2.654	.0005	13.9012	0	0	NC
747	25	N3	-2.654	0	17.7909	0	0	NC
748	25	N4	0	0	21.4611	0	0	NC
749	25	N5	0	0	21.4611	0	0	NC
750	25	N6	0	.0006	21.4613	0	0	NC
751	25	N7	0	.128	9.4735	0	0	NC
752	25	N8	0	-.0057	33.1943	0	0	NC
753	25	N9	0	0	25.7495	0	0	NC
754	25	N10	4.0792	.0007	39.1336	0	0	NC
755	25	N11	-.0206	.0266	15.9029	0	0	NC
756	25	N12	0	0	42.5012	0	0	NC
757	25	N13	0	0	42.501	0	0	NC
758	25	N14	0	-22.7029	54.9225	0	0	NC
759	25	N16	0	0	25.7503	0	0	NC
760	25	N17	0	0	34.0195	0	0	NC
761	25	N18	-.0003	-27.4525	70.314	0	0	NC
762	25	N19	4.9737	0	40.0303	0	0	NC
763	25	N20	-9.0319	0	47.3623	0	0	NC
764	25	N21	0	.0033	41.4027	0	0	NC
765	25	N22	0	.2075	27.6872	0	0	NC
766	25	N23	0	.0015	13.6778	0	0	NC
767	25	N24	0	0	17.5683	0	0	NC
768	25	N25	0	0	21.7891	0	0	NC
769	25	N26	0	0	21.789	0	0	NC
770	25	N27	0	.0009	21.4607	0	0	NC
771	25	N28	0	.1976	22.1518	0	0	NC
772	25	N15	0	-17.3294	23.9247	0	0	NC
773	25	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
774	25	Totals:	0	-66.8587	805.1478			
775	25	COG (ft):	X: 87.0079	Y: 44.0334	Z: 22.4687			
776	26	N1	0	-.1801	17.7864	0	0	NC
777	26	N2	-2.8533	-.0012	5.1037	0	0	NC
778	26	N3	-8.1613	0	26.5876	0	0	NC
779	26	N4	0	0	21.4611	0	0	NC
780	26	N5	0	0	21.4611	0	0	NC
781	26	N6	0	.0004	21.4613	0	0	NC
782	26	N7	0	.0873	20.0385	0	0	NC
783	26	N8	0	-.0107	32.1737	0	0	NC
784	26	N9	0	0	25.7502	0	0	NC
785	26	N10	-7.5498	.0007	28.9614	0	0	NC
786	26	N11	-.1682	.0174	51.6967	0	0	NC
787	26	N12	0	0	42.5012	0	0	NC
788	26	N13	0	0	42.501	0	0	NC
789	26	N14	0	-2.5927	44.3575	0	0	NC
790	26	N16	0	0	25.7494	0	0	NC
791	26	N17	0	0	34.0195	0	0	NC
792	26	N18	-.0021	-.4731	44.6924	0	0	NC
793	26	N19	-11.9415	.0006	11.4906	0	0	NC
794	26	N20	-25.1626	-.0005	75.9019	0	0	NC
795	26	N21	0	.0145	41.6299	0	0	NC
796	26	N22	0	-.0955	15.858	0	0	NC
797	26	N23	0	-.0007	13.6787	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
798	26	N24	0	0	17.5683	0	0	NC
799	26	N25	-11.0145	0	16.2818	0	0	NC
800	26	N26	0	0	27.2963	0	0	NC
801	26	N27	0	.0006	21.4608	0	0	NC
802	26	N28	0	.1429	21.9246	0	0	NC
803	26	N15	0	3.0898	35.7539	0	0	NC
804	26	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
805	26	Totals:	-66.8533	0	805.1478			
806	26	COG (ft):	X: 87.0079	Y: 44.0334	Z: 22.4687			
807	27	N1	0	-.2843	18.221	0	0	NC
808	27	N2	2.654	-.002	13.9001	0	0	NC
809	27	N3	-2.654	0	17.7909	0	0	NC
810	27	N4	0	0	21.4611	0	0	NC
811	27	N5	0	0	21.4611	0	0	NC
812	27	N6	0	-.0005	21.4609	0	0	NC
813	27	N7	0	-.1209	33.1886	0	0	NC
814	27	N8	0	-.009	31.7391	0	0	NC
815	27	N9	0	0	25.7505	0	0	NC
816	27	N10	5.9707	.0003	40.7882	0	0	NC
817	27	N11	.0032	.0082	65.6104	0	0	NC
818	27	N12	0	0	42.5012	0	0	NC
819	27	N13	0	0	42.5014	0	0	NC
820	27	N14	0	21.1523	31.2074	0	0	NC
821	27	N16	0	0	25.7491	0	0	NC
822	27	N17	0	0	34.0195	0	0	NC
823	27	N18	.0001	26.6318	18.952	0	0	NC
824	27	N19	3.993	.0002	38.3757	0	0	NC
825	27	N20	-9.9671	0	49.0164	0	0	NC
826	27	N21	0	.0113	42.5097	0	0	NC
827	27	N22	0	-.2012	6.804	0	0	NC
828	27	N23	0	-.0014	13.679	0	0	NC
829	27	N24	0	0	17.5683	0	0	NC
830	27	N25	0	0	21.7891	0	0	NC
831	27	N26	0	0	21.7891	0	0	NC
832	27	N27	0	-.0003	21.4612	0	0	NC
833	27	N28	0	-.0687	21.0447	0	0	NC
834	27	N15	0	19.743	44.8079	0	0	NC
835	27	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
836	27	Totals:	0	66.8587	805.1478			
837	27	COG (ft):	X: 87.0079	Y: 44.0334	Z: 22.4687			
838	28	N1	0	-.0169	17.1057	0	0	NC
839	28	N2	8.1613	0	22.6977	0	0	NC
840	28	N3	2.8533	0	8.9942	0	0	NC
841	28	N4	0	0	21.4611	0	0	NC
842	28	N5	0	0	21.4611	0	0	NC
843	28	N6	0	-.0003	21.461	0	0	NC
844	28	N7	0	-.0761	22.5593	0	0	NC
845	28	N8	0	0	32.8545	0	0	NC
846	28	N9	0	0	25.7498	0	0	NC
847	28	N10	17.5554	.0003	50.9217	0	0	NC
848	28	N11	.1502	.0173	30.054	0	0	NC
849	28	N12	0	0	42.5012	0	0	NC
850	28	N13	0	0	42.5013	0	0	NC
851	28	N14	0	.9516	41.8367	0	0	NC
852	28	N16	0	0	25.75	0	0	NC
853	28	N17	0	0	34.0195	0	0	NC
854	28	N18	.0019	-.1383	44.3748	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
855	28	N19	20.9312	-.0004	66.954	0	0	NC
856	28	N20	6.1855	.0005	20.4383	0	0	NC
857	28	N21	0	.0004	42.2663	0	0	NC
858	28	N22	0	.0908	18.6635	0	0	NC
859	28	N23	0	.0006	13.6781	0	0	NC
860	28	N24	0	0	17.5683	0	0	NC
861	28	N25	11.0147	0	27.2964	0	0	NC
862	28	N26	0	0	16.2817	0	0	NC
863	28	N27	0	0	21.4611	0	0	NC
864	28	N28	0	-.0101	21.2882	0	0	NC
865	28	N15	0	-.8194	32.9484	0	0	NC
866	28	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
867	28	Totals:	66.8534	0	805.1478			
868	28	COG (ft):	X: 87.0079	Y: 44.0334	Z: 22.4687			
869	29	N1	0	-.0184	13.8354	0	0	NC
870	29	N2	2.1276	-.0001	11.6087	0	0	NC
871	29	N3	-2.1276	0	14.8148	0	0	NC
872	29	N4	0	0	17.8007	0	0	NC
873	29	N5	0	0	17.8007	0	0	NC
874	29	N6	0	.0005	17.8009	0	0	NC
875	29	N7	0	.1157	15.7421	0	0	NC
876	29	N8	0	-.0005	25.5648	0	0	NC
877	29	N9	0	0	19.5177	0	0	NC
878	29	N10	3.6759	.0005	30.6898	0	0	NC
879	29	N11	-.0256	.0161	25.4842	0	0	NC
880	29	N12	0	0	32.5491	0	0	NC
881	29	N13	0	0	32.5489	0	0	NC
882	29	N14	0	-3.0135	35.551	0	0	NC
883	29	N16	0	0	20.0309	0	0	NC
884	29	N17	0	0	26.5943	0	0	NC
885	29	N18	-.0003	-7.2512	42.0003	0	0	NC
886	29	N19	3.7709	.0002	31.25	0	0	NC
887	29	N20	-7.421	0	37.8771	0	0	NC
888	29	N21	0	.0153	32.8575	0	0	NC
889	29	N22	0	.0619	14.8336	0	0	NC
890	29	N23	0	.0004	10.8729	0	0	NC
891	29	N24	0	0	13.9261	0	0	NC
892	29	N25	0	0	17.3093	0	0	NC
893	29	N26	0	0	17.3093	0	0	NC
894	29	N27	0	.0007	16.9811	0	0	NC
895	29	N28	0	.1524	17.594	0	0	NC
896	29	N15	0	-.4798	26.2184	0	0	NC
897	29	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
898	29	Totals:	0	-10.3998	636.9636			
899	29	COG (ft):	X: 87.0985	Y: 44.0422	Z: 22.3193			
900	30	N1	0	-.0874	13.8668	0	0	NC
901	30	N2	1.5116	-.0006	10.1555	0	0	NC
902	30	N3	-2.6886	0	15.0887	0	0	NC
903	30	N4	0	0	16.9813	0	0	NC
904	30	N5	0	0	16.9814	0	0	NC
905	30	N6	0	0	16.9814	0	0	NC
906	30	N7	0	.0151	16.8634	0	0	NC
907	30	N8	0	-.0049	25.5335	0	0	NC
908	30	N9	0	0	20.0309	0	0	NC
909	30	N10	2.9043	.0004	30.6809	0	0	NC
910	30	N11	-.0353	.0137	33.6137	0	0	NC
911	30	N12	0	0	33.3684	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
912	30	N13	0	0	33.3684	0	0	NC
913	30	N14	0	-.8713	34.4297	0	0	NC
914	30	N16	0	0	20.0306	0	0	NC
915	30	N17	0	0	26.5943	0	0	NC
916	30	N18	-.0004	-.2644	35.3652	0	0	NC
917	30	N19	1.8144	.0001	27.949	0	0	NC
918	30	N20	-9.2867	0	41.1779	0	0	NC
919	30	N21	0	.0068	33.2348	0	0	NC
920	30	N22	0	-.0144	13.6725	0	0	NC
921	30	N23	0	-.0001	10.8732	0	0	NC
922	30	N24	0	0	13.9261	0	0	NC
923	30	N25	-1.1769	0	16.7209	0	0	NC
924	30	N26	0	0	17.8978	0	0	NC
925	30	N27	0	.0003	16.9812	0	0	NC
926	30	N28	0	.0617	17.2167	0	0	NC
927	30	N15	0	1.1449	27.3795	0	0	NC
928	30	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
929	30	Totals:	-6.9577	0	636.9636			
930	30	COG (ft):	X: 87.0985	Y: 44.0422	Z: 22.3193			
931	31	N1	0	.0664	2.1791	0	0	NC
932	31	N2	.358	.0005	2.5877	0	0	NC
933	31	N3	-.358	0	3.2052	0	0	NC
934	31	N4	0	0	3.6896	0	0	NC
935	31	N5	0	0	3.6896	0	0	NC
936	31	N6	0	.0007	3.6899	0	0	NC
937	31	N7	0	.1512	1.2306	0	0	NC
938	31	N8	0	.0041	3.5712	0	0	NC
939	31	N9	0	0	1.6536	0	0	NC
940	31	N10	.456	.0002	3.8269	0	0	NC
941	31	N11	-.0371	.0051	-4.0289	0	0	NC
942	31	N12	0	0	3.4698	0	0	NC
943	31	N13	0	0	3.4695	0	0	NC
944	31	N14	0	-3.2904	7.3492	0	0	NC
945	31	N16	0	0	2.3381	0	0	NC
946	31	N17	0	0	3.3881	0	0	NC
947	31	N18	-.0004	-9.388	14.5311	0	0	NC
948	31	N19	.7797	.0002	4.8212	0	0	NC
949	31	N20	-1.1982	0	5.7375	0	0	NC
950	31	N21	0	.0136	4.712	0	0	NC
951	31	N22	0	.0818	3.8091	0	0	NC
952	31	N23	0	.0006	1.7696	0	0	NC
953	31	N24	0	0	2.1834	0	0	NC
954	31	N25	0	0	2.7939	0	0	NC
955	31	N26	0	0	2.7939	0	0	NC
956	31	N27	0	.0006	2.5969	0	0	NC
957	31	N28	0	.1425	3.3628	0	0	NC
958	31	N15	0	-1.6555	2.9323	0	0	NC
959	31	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
960	31	Totals:	0	-13.8664	97.353			
961	31	COG (ft):	X: 88.3667	Y: 44.1656	Z: 20.2351			
962	32	N1	0	-.0257	2.2209	0	0	NC
963	32	N2	-.4633	-.0002	.6501	0	0	NC
964	32	N3	-1.1059	0	3.5703	0	0	NC
965	32	N4	0	0	2.5972	0	0	NC
966	32	N5	0	0	2.5972	0	0	NC
967	32	N6	0	0	2.5972	0	0	NC
968	32	N7	0	.0171	2.7257	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
969	32	N8	0	-.0017	3.5294	0	0	NC
970	32	N9	0	0	2.338	0	0	NC
971	32	N10	-.5729	0	3.815	0	0	NC
972	32	N11	-.0501	.002	6.8103	0	0	NC
973	32	N12	0	0	4.5622	0	0	NC
974	32	N13	0	0	4.5622	0	0	NC
975	32	N14	0	-.4341	5.8541	0	0	NC
976	32	N16	0	0	2.3378	0	0	NC
977	32	N17	0	0	3.3881	0	0	NC
978	32	N18	-.0007	-.0722	5.6843	0	0	NC
979	32	N19	-1.829	.0001	.4198	0	0	NC
980	32	N20	-3.6858	0	10.1386	0	0	NC
981	32	N21	0	.0023	5.2152	0	0	NC
982	32	N22	0	-.0199	2.261	0	0	NC
983	32	N23	0	-.0001	1.7699	0	0	NC
984	32	N24	0	0	2.1834	0	0	NC
985	32	N25	-1.5692	0	2.0093	0	0	NC
986	32	N26	0	0	3.5786	0	0	NC
987	32	N27	0	0	2.5971	0	0	NC
988	32	N28	0	.0215	2.8597	0	0	NC
989	32	N15	0	.5108	4.4804	0	0	NC
990	32	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
991	32	Totals:	-9.2769	0	97.353			
992	32	COG (ft):	X: 88.3667	Y: 44.1656	Z: 20.2351			
993	33	N1	0	.177	6.0864	0	0	NC
994	33	N2	1.0599	.0013	5.6444	0	0	NC
995	33	N3	-1.0599	0	7.1732	0	0	NC
996	33	N4	0	0	8.5701	0	0	NC
997	33	N5	0	0	8.5702	0	0	NC
998	33	N6	0	.0007	8.5705	0	0	NC
999	33	N7	0	.1675	-7.1275	0	0	NC
1000	33	N8	0	-.0028	13.7439	0	0	NC
1001	33	N9	0	0	9.9627	0	0	NC
1002	33	N10	.9936	.0005	15.0852	0	0	NC
1003	33	N11	-.0305	.0191	-16.804	0	0	NC
1004	33	N12	0	0	16.7392	0	0	NC
1005	33	N13	0	0	16.7389	0	0	NC
1006	33	N14	0	-29.5429	33.1779	0	0	NC
1007	33	N16	0	0	9.9641	0	0	NC
1008	33	N17	0	0	13.2884	0	0	NC
1009	33	N18	-.0005	-36.323	52.2827	0	0	NC
1010	33	N19	2.3835	0	16.5282	0	0	NC
1011	33	N20	-3.3461	.0001	18.3845	0	0	NC
1012	33	N21	0	-.0024	16.1057	0	0	NC
1013	33	N22	0	.276	20.9472	0	0	NC
1014	33	N23	0	.0019	5.5094	0	0	NC
1015	33	N24	0	0	7.0396	0	0	NC
1016	33	N25	0	0	8.767	0	0	NC
1017	33	N26	0	0	8.7669	0	0	NC
1018	33	N27	0	.0009	8.5698	0	0	NC
1019	33	N28	0	.2027	9.4398	0	0	NC
1020	33	N15	0	-24.1217	-.1259	0	0	NC
1021	33	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1022	33	Totals:	0	-89.1449	321.5985			
1023	33	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
1024	34	N1	0	-.1492	7.4471	0	0	NC
1025	34	N2	-6.2832	-.001	-6.0856	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1026	34	N3	-8.403	0	18.9022	0	0	NC
1027	34	N4	0	0	8.5702	0	0	NC
1028	34	N5	0	0	8.5702	0	0	NC
1029	34	N6	0	.0005	8.5704	0	0	NC
1030	34	N7	.0001	.1134	6.9592	0	0	NC
1031	34	N8	0	-.0095	12.3831	0	0	NC
1032	34	N9	0	0	9.9637	0	0	NC
1033	34	N10	-14.5116	.0004	1.5223	0	0	NC
1034	34	N11	-.2273	.007	30.921	0	0	NC
1035	34	N12	0	0	16.7392	0	0	NC
1036	34	N13	0	0	16.739	0	0	NC
1037	34	N14	0	-2.7293	19.0912	0	0	NC
1038	34	N16	0	0	9.9629	0	0	NC
1039	34	N17	0	0	13.2883	0	0	NC
1040	34	N18	-.0029	-.3505	18.1206	0	0	NC
1041	34	N19	-20.1702	.0007	-21.5247	0	0	NC
1042	34	N20	-24.8537	-.0006	56.4373	0	0	NC
1043	34	N21	0	.0126	16.4086	0	0	NC
1044	34	N22	0	-.128	5.175	0	0	NC
1045	34	N23	0	-.0009	5.5106	0	0	NC
1046	34	N24	0	0	7.0397	0	0	NC
1047	34	N25	-14.6861	0	1.4239	0	0	NC
1048	34	N26	0	0	16.11	0	0	NC
1049	34	N27	0	.0005	8.5699	0	0	NC
1050	34	N28	0	.1298	9.1369	0	0	NC
1051	34	N15	0	3.104	15.6463	0	0	NC
1052	34	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1053	34	Totals:	-89.1378	0	321.5985			
1054	34	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
1055	35	N1	0	-.2882	8.0266	0	0	NC
1056	35	N2	1.0599	-.002	5.6429	0	0	NC
1057	35	N3	-1.0599	0	7.1732	0	0	NC
1058	35	N4	0	0	8.5702	0	0	NC
1059	35	N5	0	0	8.5702	0	0	NC
1060	35	N6	0	-.0007	8.5699	0	0	NC
1061	35	N7	0	-.1642	24.4926	0	0	NC
1062	35	N8	0	-.0071	11.8036	0	0	NC
1063	35	N9	0	0	9.9641	0	0	NC
1064	35	N10	3.5157	0	17.2914	0	0	NC
1065	35	N11	.0013	-.0053	49.4726	0	0	NC
1066	35	N12	0	0	16.7392	0	0	NC
1067	35	N13	0	0	16.7395	0	0	NC
1068	35	N14	0	28.9307	1.5578	0	0	NC
1069	35	N16	0	0	9.9625	0	0	NC
1070	35	N17	0	0	13.2883	0	0	NC
1071	35	N18	.0001	35.7894	-16.2	0	0	NC
1072	35	N19	1.0759	.0001	14.3221	0	0	NC
1073	35	N20	-4.593	0	20.59	0	0	NC
1074	35	N21	0	.0082	17.5817	0	0	NC
1075	35	N22	0	-.2689	-6.897	0	0	NC
1076	35	N23	0	-.0019	5.511	0	0	NC
1077	35	N24	0	0	7.0397	0	0	NC
1078	35	N25	0	0	8.7669	0	0	NC
1079	35	N26	0	0	8.7669	0	0	NC
1080	35	N27	0	-.0007	8.5704	0	0	NC
1081	35	N28	0	-.1523	7.9637	0	0	NC
1082	35	N15	0	25.3082	27.7183	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1083	35	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1084	35	Totals:	0	89.1449	321.5985			
1085	35	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
1086	36	N1	0	.0683	6.5395	0	0	NC
1087	36	N2	8.4029	.0005	17.373	0	0	NC
1088	36	N3	6.2832	0	-4.5557	0	0	NC
1089	36	N4	0	0	8.5702	0	0	NC
1090	36	N5	0	0	8.5702	0	0	NC
1091	36	N6	0	-.0005	8.57	0	0	NC
1092	36	N7	0	-.1045	10.3202	0	0	NC
1093	36	N8	0	.0049	13.2908	0	0	NC
1094	36	N9	0	0	9.9631	0	0	NC
1095	36	N10	18.962	0	30.8027	0	0	NC
1096	36	N11	.1973	.0068	2.0641	0	0	NC
1097	36	N12	0	0	16.7392	0	0	NC
1098	36	N13	0	0	16.7394	0	0	NC
1099	36	N14	0	1.9965	15.7302	0	0	NC
1100	36	N16	0	0	9.9636	0	0	NC
1101	36	N17	0	0	13.2883	0	0	NC
1102	36	N18	.0025	.0959	17.6971	0	0	NC
1103	36	N19	23.6601	-.0006	52.4265	0	0	NC
1104	36	N20	16.9437	.0006	-17.5143	0	0	NC
1105	36	N21	0	-.0063	17.2572	0	0	NC
1106	36	N22	0	.1204	8.9157	0	0	NC
1107	36	N23	0	.0009	5.5099	0	0	NC
1108	36	N24	0	0	7.0396	0	0	NC
1109	36	N25	14.6862	0	16.11	0	0	NC
1110	36	N26	0	0	1.4239	0	0	NC
1111	36	N27	0	-.0003	8.5703	0	0	NC
1112	36	N28	0	-.0742	8.2883	0	0	NC
1113	36	N15	0	-2.1083	11.9056	0	0	NC
1114	36	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1115	36	Totals:	89.1378	0	321.5985			
1116	36	COG (ft):	X: 87.1801	Y: 44.0501	Z: 22.187			
1117	37	N1	0	-.0182	2.4693	0	0	NC
1118	37	N2	.3586	-.0002	2.2761	0	0	NC
1119	37	N3	-.3586	0	2.6978	0	0	NC
1120	37	N4	0	0	2.8969	0	0	NC
1121	37	N5	0	0	2.8969	0	0	NC
1122	37	N6	0	0	2.897	0	0	NC
1123	37	N7	0	.0102	3.4533	0	0	NC
1124	37	N8	0	-.0013	3.7548	0	0	NC
1125	37	N9	0	0	2.0987	0	0	NC
1126	37	N10	1.6575	0	6.3096	0	0	NC
1127	37	N11	-.0491	.002	6.2473	0	0	NC
1128	37	N12	0	0	4.7327	0	0	NC
1129	37	N13	0	0	4.7327	0	0	NC
1130	37	N14	0	-.2787	6.6827	0	0	NC
1131	37	N16	0	0	2.0986	0	0	NC
1132	37	N17	0	0	3.3126	0	0	NC
1133	37	N18	-.0006	-.0631	6.5497	0	0	NC
1134	37	N19	.3894	0	4.3774	0	0	NC
1135	37	N20	-1.9978	0	7.4779	0	0	NC
1136	37	N21	0	.0017	6.0143	0	0	NC
1137	37	N22	0	-.0127	2.9868	0	0	NC
1138	37	N23	0	-.0001	2.0533	0	0	NC
1139	37	N24	0	0	2.475	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1140	37	N25	-.0002	0	3.2248	0	0	NC
1141	37	N26	0	0	3.225	0	0	NC
1142	37	N27	0	0	2.8969	0	0	NC
1143	37	N28	0	.0145	3.2807	0	0	NC
1144	37	N15	0	.3458	4.8886	0	0	NC
1145	37	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1146	37	Totals:	0	0	109.0075			
1147	37	COG (ft):	X: 89.1984	Y: 44.2462	Z: 18.8859			
1148	38	N1	0	-.0416	7.7194	0	0	NC
1149	38	N2	1.1834	-.0007	5.9926	0	0	NC
1150	38	N3	-1.1834	-.0003	7.7806	0	0	NC
1151	38	N4	0	-.0003	9.5699	0	0	NC
1152	38	N5	0	-.0004	9.5698	0	0	NC
1153	38	N6	0	-.0004	9.5698	0	0	NC
1154	38	N7	0	-.0025	9.1995	0	0	NC
1155	38	N8	.0001	-.0018	14.8269	0	0	NC
1156	38	N9	.0001	0	12.1926	0	0	NC
1157	38	N10	1.7206	0	17.333	0	0	NC
1158	38	N11	.0201	.0072	17.8585	0	0	NC
1159	38	N12	.0002	-.0001	19.4702	0	0	NC
1160	38	N13	.0002	-.0001	19.4702	0	0	NC
1161	38	N14	.0002	-.2781	18.7721	0	0	NC
1162	38	N16	.0001	0	12.1925	0	0	NC
1163	38	N17	.0001	0	15.8298	0	0	NC
1164	38	N18	.0005	-.1219	19.5785	0	0	NC
1165	38	N19	2.1179	0	17.9653	0	0	NC
1166	38	N20	-3.8603	-.0001	20.9749	0	0	NC
1167	38	N21	.0002	.0024	18.5254	0	0	NC
1168	38	N22	.0003	.0053	7.3579	0	0	NC
1169	38	N23	.0002	.0003	5.9927	0	0	NC
1170	38	N24	.0003	.0003	7.7806	0	0	NC
1171	38	N25	-.0019	.0001	9.5688	0	0	NC
1172	38	N26	.0004	.0003	9.571	0	0	NC
1173	38	N27	.0004	.0002	9.5699	0	0	NC
1174	38	N28	.0004	.0267	9.4462	0	0	NC
1175	38	N15	.0001	.4059	15.1885	0	0	NC
1176	38	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1177	38	Totals:	0	0	358.8671			
1178	38	COG (ft):	X: 86.665	Y: 44	Z: 23.0297			
1179	39	N1	0	-.0495	9.1844	0	0	NC
1180	39	N2	1.4079	-.0009	7.1298	0	0	NC
1181	39	N3	-1.4079	-.0005	9.2573	0	0	NC
1182	39	N4	0	-.0005	11.3865	0	0	NC
1183	39	N5	0	-.0005	11.3864	0	0	NC
1184	39	N6	0	-.0006	11.3864	0	0	NC
1185	39	N7	0	-.003	10.9458	0	0	NC
1186	39	N8	.0002	-.0021	17.6418	0	0	NC
1187	39	N9	.0001	-.0001	14.5072	0	0	NC
1188	39	N10	2.046	0	20.6221	0	0	NC
1189	39	N11	.0236	.0084	21.2505	0	0	NC
1190	39	N12	.0002	-.0002	23.1662	0	0	NC
1191	39	N13	.0002	-.0002	23.1662	0	0	NC
1192	39	N14	.0002	-.3305	22.3355	0	0	NC
1193	39	N16	.0001	-.0001	14.507	0	0	NC
1194	39	N17	.0002	-.0001	18.8348	0	0	NC
1195	39	N18	.0006	-.1444	23.2946	0	0	NC
1196	39	N19	2.5205	-.0001	21.3766	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1197	39	N20	-4.5925	-.0002	24.9557	0	0	NC
1198	39	N21	.0002	.0027	22.0417	0	0	NC
1199	39	N22	.0004	.0063	8.7544	0	0	NC
1200	39	N23	.0003	.0004	7.1303	0	0	NC
1201	39	N24	.0004	.0004	9.2576	0	0	NC
1202	39	N25	-.0027	.0002	11.3849	0	0	NC
1203	39	N26	.0005	.0004	11.3881	0	0	NC
1204	39	N27	.0005	.0003	11.3865	0	0	NC
1205	39	N28	.0005	.0317	11.2391	0	0	NC
1206	39	N15	.0002	.4827	18.0723	0	0	NC
1207	39	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1208	39	Totals:	0	0	426.99			
1209	39	COG (ft):	X: 86.6649	Y: 44.0001	Z: 23.0297			
1210	40	N1	0	.1061	-4.8161	0	0	NC
1211	40	N2	-.702	-.0012	-3.0567	0	0	NC
1212	40	N3	.7019	-.0022	-3.9689	0	0	NC
1213	40	N4	0	-.0015	-4.8811	0	0	NC
1214	40	N5	0	-.0016	-4.8811	0	0	NC
1215	40	N6	0	-.001	-4.8809	0	0	NC
1216	40	N7	0	.1448	-7.41	0	0	NC
1217	40	N8	0	.006	-9.2637	0	0	NC
1218	40	N9	0	-.001	-8.3091	0	0	NC
1219	40	N10	-1.7665	-.0016	-12.3336	0	0	NC
1220	40	N11	-.0236	-.0049	-20.4757	0	0	NC
1221	40	N12	0	-.0021	-13.2689	0	0	NC
1222	40	N13	0	-.0022	-13.2691	0	0	NC
1223	40	N14	0	-2.925	-10.0606	0	0	NC
1224	40	N16	.0001	-.0009	-7.6254	0	0	NC
1225	40	N17	.0001	-.0013	-9.9007	0	0	NC
1226	40	N18	.0003	-9.2117	-3.4248	0	0	NC
1227	40	N19	-.9667	-.0015	-10.6327	0	0	NC
1228	40	N20	2.7557	-.0024	-13.7224	0	0	NC
1229	40	N21	.0002	.0092	-12.12	0	0	NC
1230	40	N22	0	.0852	-3.23	0	0	NC
1231	40	N23	0	0	-3.7403	0	0	NC
1232	40	N24	.0001	-.0009	-4.8558	0	0	NC
1233	40	N25	-.0008	-.0015	-5.9728	0	0	NC
1234	40	N26	.0001	-.0014	-5.972	0	0	NC
1235	40	N27	.0001	-.0011	-5.9725	0	0	NC
1236	40	N28	.0001	.1128	-5.3507	0	0	NC
1237	40	N15	.0002	-2.1633	-10.8499	0	0	NC
1238	40	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1239	40	Totals:	0	-13.8664	-224.2455			
1240	40	COG (ft):	X: 86.665	Y: 44	Z: 23.0343			
1241	41	N1	-.0002	.0149	-4.7732	0	0	NC
1242	41	N2	-1.5226	0	-4.9923	0	0	NC
1243	41	N3	-.0454	0	-3.6042	0	0	NC
1244	41	N4	-.0003	0	-5.973	0	0	NC
1245	41	N5	-.0003	-.0002	-5.9731	0	0	NC
1246	41	N6	-.0003	-.0002	-5.9731	0	0	NC
1247	41	N7	-.0002	.0124	-5.9126	0	0	NC
1248	41	N8	-.0005	.0007	-9.3067	0	0	NC
1249	41	N9	-.0004	0	-7.6254	0	0	NC
1250	41	N10	-2.8	0	-12.3496	0	0	NC
1251	41	N11	-.0367	-.0051	-9.68	0	0	NC
1252	41	N12	-.0007	0	-12.1769	0	0	NC
1253	41	N13	-.0007	-.0002	-12.1769	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1254	41	N14	-.0006	-.0652	-11.558	0	0	NC
1255	41	N16	-.0004	0	-7.6254	0	0	NC
1256	41	N17	-.0005	0	-9.9002	0	0	NC
1257	41	N18	-.0011	.0554	-12.2246	0	0	NC
1258	41	N19	-3.5693	0	-15.0223	0	0	NC
1259	41	N20	.2736	-.0002	-9.3317	0	0	NC
1260	41	N21	-.0006	-.0012	-11.617	0	0	NC
1261	41	N22	-.0001	-.0159	-4.7835	0	0	NC
1262	41	N23	-.0001	0	-3.7404	0	0	NC
1263	41	N24	-.0001	.0002	-4.8563	0	0	NC
1264	41	N25	-1.5686	0	-6.7573	0	0	NC
1265	41	N26	0	.0001	-5.1888	0	0	NC
1266	41	N27	0	-.0001	-5.973	0	0	NC
1267	41	N28	0	-.0065	-5.8537	0	0	NC
1268	41	N15	-.0005	.0111	-9.2964	0	0	NC
1269	41	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1270	41	Totals:	-9.2769	0	-224.2455			
1271	41	COG (ft):	X: 86.665	Y: 44	Z: 23.0343			
1272	42	N1	0	.3096	-1.2992	0	0	NC
1273	42	N2	.0001	.0022	.0011	0	0	NC
1274	42	N3	0	0	-.0002	0	0	NC
1275	42	N4	0	0	0	0	0	NC
1276	42	N5	0	0	0	0	0	NC
1277	42	N6	0	.001	.0004	0	0	NC
1278	42	N7	0	.216	-22.5281	0	0	NC
1279	42	N8	0	.0003	1.2992	0	0	NC
1280	42	N9	0	0	-.0009	0	0	NC
1281	42	N10	-1.7591	-.0007	-1.5401	0	0	NC
1282	42	N11	-.0245	-.0153	-47.5655	0	0	NC
1283	42	N12	0	0	0	0	0	NC
1284	42	N13	0	0	-.0004	0	0	NC
1285	42	N14	0	-41.6612	22.5281	0	0	NC
1286	42	N16	0	0	.0012	0	0	NC
1287	42	N17	0	0	0	0	0	NC
1288	42	N18	.0006	-51.6787	49.1056	0	0	NC
1289	42	N19	.9127	.001	1.54	0	0	NC
1290	42	N20	.8704	-.001	-1.5395	0	0	NC
1291	42	N21	0	-.0087	-1.0364	0	0	NC
1292	42	N22	0	.4126	19.8544	0	0	NC
1293	42	N23	0	.0028	-.0012	0	0	NC
1294	42	N24	0	0	0	0	0	NC
1295	42	N25	-.0005	0	-.0002	0	0	NC
1296	42	N26	0	0	.0002	0	0	NC
1297	42	N27	0	.0011	-.0005	0	0	NC
1298	42	N28	0	.2506	1.0364	0	0	NC
1299	42	N15	.0002	-35.1815	-19.8545	0	0	NC
1300	42	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1301	42	Totals:	0	-127.3499	0			
1302	42	COG (ft):	NC	NC	NC			
1303	43	N1	.0004	-.1552	.6464	0	0	NC
1304	43	N2	-10.4992	.0032	-16.7568	0	0	NC
1305	43	N3	-10.4814	-.0043	16.7563	0	0	NC
1306	43	N4	0	0	0	0	0	NC
1307	43	N5	0	0	0	0	0	NC
1308	43	N6	0	.0007	.0003	0	0	NC
1309	43	N7	-.0012	.1549	-2.3936	0	0	NC
1310	43	N8	-.0005	-.0102	-.6464	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1311	43	N9	0	0	.0007	0	0	NC
1312	43	N10	-24.0048	.0013	-20.9549	0	0	NC
1313	43	N11	-.2571	-.0008	20.6483	0	0	NC
1314	43	N12	0	0	0	0	0	NC
1315	43	N13	0	0	-.0003	0	0	NC
1316	43	N14	.0016	-3.3644	2.3936	0	0	NC
1317	43	N16	0	0	-.0005	0	0	NC
1318	43	N17	0	0	0	0	0	NC
1319	43	N18	-.0033	-.3229	.3062	0	0	NC
1320	43	N19	-31.3096	-.0039	-52.7811	0	0	NC
1321	43	N20	-29.8043	.0039	52.7813	0	0	NC
1322	43	N21	-.0004	.0134	-.6035	0	0	NC
1323	43	N22	-.0015	-.1769	-2.668	0	0	NC
1324	43	N23	0	-.0013	.0005	0	0	NC
1325	43	N24	0	0	0	0	0	NC
1326	43	N25	-20.986	.0008	-10.4902	0	0	NC
1327	43	N26	.0055	-.0007	10.4902	0	0	NC
1328	43	N27	0	.0006	-.0002	0	0	NC
1329	43	N28	.0004	.1453	.6035	0	0	NC
1330	43	N15	.0018	3.7163	2.668	0	0	NC
1331	43	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1332	43	Totals:	-127.3397	0	0			
1333	43	COG (ft):	NC	NC	NC			
1334	44	N1	0	-.3551	1.4722	0	0	NC
1335	44	N2	0	-.0025	-.0009	0	0	NC
1336	44	N3	.0001	0	-.0001	0	0	NC
1337	44	N4	0	0	0	0	0	NC
1338	44	N5	0	0	0	0	0	NC
1339	44	N6	0	-.0011	-.0004	0	0	NC
1340	44	N7	0	-.2581	22.6428	0	0	NC
1341	44	N8	0	-.0059	-1.4721	0	0	NC
1342	44	N9	0	0	.001	0	0	NC
1343	44	N10	1.8433	-.0016	1.6109	0	0	NC
1344	44	N11	.0205	-.0496	47.1177	0	0	NC
1345	44	N12	0	0	0	0	0	NC
1346	44	N13	0	0	.0004	0	0	NC
1347	44	N14	0	41.872	-22.6428	0	0	NC
1348	44	N16	0	0	-.0011	0	0	NC
1349	44	N17	0	0	0	0	0	NC
1350	44	N18	.0017	51.3403	-48.7286	0	0	NC
1351	44	N19	-.9549	.0013	-1.6111	0	0	NC
1352	44	N20	-.9105	-.0013	1.6106	0	0	NC
1353	44	N21	0	.0064	1.0723	0	0	NC
1354	44	N22	0	-.3658	-19.9247	0	0	NC
1355	44	N23	0	-.0027	.0011	0	0	NC
1356	44	N24	0	0	0	0	0	NC
1357	44	N25	-.0002	0	-.0001	0	0	NC
1358	44	N26	0	0	0	0	0	NC
1359	44	N27	0	-.0012	.0005	0	0	NC
1360	44	N28	0	-.2564	-1.0723	0	0	NC
1361	44	N15	0	35.4314	19.9246	0	0	NC
1362	44	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1363	44	Totals:	0	127.3499	0			
1364	44	COG (ft):	NC	NC	NC			
1365	45	N1	.0003	.1556	-.6504	0	0	NC
1366	45	N2	10.4809	.0055	16.7561	0	0	NC
1367	45	N3	10.4988	-.0043	-16.7556	0	0	NC

Joint Reactions (Continued)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1368	45	N4	0	0	0	0	0	NC
1369	45	N5	0	0	0	0	0	NC
1370	45	N6	0	-.0007	-.0003	0	0	NC
1371	45	N7	-.0016	-.1563	2.4083	0	0	NC
1372	45	N8	-.0003	.0104	.6504	0	0	NC
1373	45	N9	0	0	-.0008	0	0	NC
1374	45	N10	23.814	.0008	20.8746	0	0	NC
1375	45	N11	.3498	-.001	-20.5757	0	0	NC
1376	45	N12	0	0	0	0	0	NC
1377	45	N13	0	0	.0003	0	0	NC
1378	45	N14	.0018	3.3874	-2.4083	0	0	NC
1379	45	N16	0	0	.0005	0	0	NC
1380	45	N17	0	0	0	0	0	NC
1381	45	N18	.0043	.3146	-.2986	0	0	NC
1382	45	N19	31.3051	-.0042	52.8637	0	0	NC
1383	45	N20	29.9067	.0041	-52.864	0	0	NC
1384	45	N21	-.0004	-.0136	.6089	0	0	NC
1385	45	N22	-.0015	.178	2.6763	0	0	NC
1386	45	N23	0	.0013	-.0005	0	0	NC
1387	45	N24	0	0	0	0	0	NC
1388	45	N25	20.9742	.0008	10.4908	0	0	NC
1389	45	N26	.0055	-.0009	-10.4907	0	0	NC
1390	45	N27	0	-.0006	.0002	0	0	NC
1391	45	N28	.0002	-.1462	-.6089	0	0	NC
1392	45	N15	.0017	-3.7305	-2.6763	0	0	NC
1393	45	N1000	NC	NC	LOCKED	LOCKED	LOCKED	NC
1394	45	Totals:	127.3397	0	0			
1395	45	COG (ft):	NC	NC	NC			

Foundation Design

CIC – Battalion Headquarters; Ft. Lewis, Washington

Base Reactions

		Axial Load		
RISA Label	Location	DL (k)	LL (k)	TL (k)
N1	D1	11.6537	7.7194	19.3731
N2	D2	9.4059	5.9926	15.3985
N3	D3	11.9551	7.7806	19.7357
N4	D4	14.2834	9.5699	23.8533
N5	D5	14.2833	9.5698	23.8531
N6	D6	14.2834	9.5698	23.8532
N7	D7	14.3991	9.1995	23.5986
N8	C1	21.3966	14.8269	36.2235
N9	C2	16.6059	12.1926	28.7985
N10	C3	26.9317	17.333	44.2647
N11	C4	27.4978	17.8585	45.3563
N12	C5	27.8989	19.4702	47.3691
N13	C6	27.8989	19.4702	47.3691
N14	C7	29.0182	18.7721	47.7903
N15	B1	22.9609	15.1885	28.7981
N16	B2	16.6056	12.1925	37.9772
N17	B3	22.1474	15.8298	49.4228
N18	B4	29.8443	19.5785	43.7193
N19	B5	25.754	17.9653	53.4085
N20	B6	32.4336	20.9749	46.5814
N21	B7	28.056	18.5254	19.0991
N22	A1	11.7412	7.3579	15.1763
N23	A2	9.1836	5.9927	19.5132
N24	A3	11.7326	7.7806	24.1785
N25	A4	14.6097	9.5688	24.1841
N26	A5	14.6131	9.571	23.8533
N27	A6	14.2834	9.5699	23.966
N28	A7	14.5198	9.4462	38.1494

Footing Design - Gravity Columns

RISA Label	Soil Bearing (ksf)	Required Footing Area	Footing Dimension (ft)	Footing Size	Reinforcement
N1	2	9.69	3.11	4x4x1	4-#5 EW Bot
N4	2	11.93	3.45	4x4x1	4-#5 EW Bot
N5	2	11.93	3.45	4x4x1	4-#5 EW Bot
N6	2	11.93	3.45	4x4x1	4-#5 EW Bot
N8	2	18.11	4.26	4.5x4.5x1	4-#5 EW Bot
N9	2	14.40	3.79	4x4x1	4-#5 EW Bot
N12	2	23.68	4.87	5x5x1	7-#4 EW Bot
N13	2	23.68	4.87	5x5x1	7-#4 EW Bot
N16	2	18.99	4.36	4.5x4.5x1	4-#5 EW Bot
N17	2	24.71	4.97	5x5x1	4-#5 EW Bot
N21	2	9.55	3.09	4x4x1	7-#4 EW Bot
N23	2	9.76	3.12	4x4x1	4-#5 EW Bot
N24	2	12.09	3.48	4x4x1	4-#5 EW Bot
N25	2	12.09	3.48	4x4x1	4-#5 EW Bot
N28	2	19.07	4.37	4.5x4.5x1	4-#5 EW Bot

Footing Design:

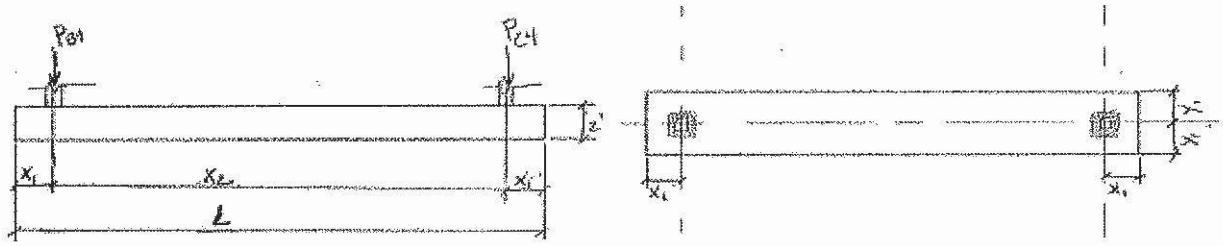
The base load reactions shown were determined using the RISA analysis model.
The Design considers a combined footing.

Columns: **B4 & C4**

N11 & N18 RISA Joint Label

Footing Characteristics:

Footing Size		*Soil*		*Additional DL:*	
36.00 ft	Length, L	1.50 ft	Top of Footing	97.20 kips	Footing Weight
6.00 ft	Width, b	0.120 ksf	Weight of Soil	63.18 kips	Soil Weight
36 in	depth, h	0.150 ksf	Weight of Conc.		



Bearing Capacity Check:

1550 psf = $q_e = q - w_c h$ Maximum allowable equivalent soil bearing pressue

q = 2000 psf
w_c = 150 pcf
h = 36 in

17.78 ft = $x_o = x_1 P_{B4} + (x_1+x_2)P_{C4}/(P_{B4} + P_{C4})$

36 ft = $L = 2x_o$

6 ft = $B = (P_{B4} + P_{C4})/(q_e L) > 6ft$

(Note: B_{min} = 6' - 0")

P_{B4} = 43.72 kips
P_{C4} = 45.36 kips
x_1 = 2.50 ft
x_2 = 30.00 ft

Therefore: Provide a 36'x6' combined footing

Check Punching Shear:

178.00 in = bo = 4(c + d) (Same for Both Columns)

P_{uB4} = 89.41 kips
P_{uC4} = 84.26 kips

206.9 kips = $V_u = P_{uB4} - 2q_u(c+d)$

1097.63 kips = $\phi V_c = 4\phi d b_o \lambda \sqrt{f'_c}$

OK $\phi V_c \geq V_u$?

q_u = 2325 psf ($1.5q_e$)
c = 12.0 in
d = 32.5 in (h - 3.5in)
λ = 1.00

Therefore: **Punching Shear is OK**

f'_c = 4000 psi
ϕ = 0.75
fy = 60000 psi

Check 30' Span:

209.25 kips = $V_u = q_u B x_2/2$
221.99 kips = $\phi V_c = 2\phi d b \lambda \sqrt{f'_c}$
OK $\phi V_c \geq V_u$?

523.13 ft kips = $M_u = q_u B x_2^2/24$ Maximum Negative Moment (Midspan Between Columns)
0.00155 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
3.6 in^2 = $A_s = \rho bd$
4.7 in^2 = $A_{smin} = .0018bh$
No $A_s > A_{smin}$? **Asmin Controls**
Provide 8-#7 Top Longitudinal

1046.25 ft kips = $M_u = q_u B x_2^2/12$ Maximum Positive Moment (At Columns)
0.00314 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
7.3 in^2 = $A_s = \rho bd$
YES $A_s > A_{smin}$? **As Contols**
Provide 8-#9 Bottom under the Columns

261.56 ft kips = $M_u = q_u L(B/2 - c/2)^2/2$ Maximum Moment in Transverse Direction
0.00077 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
1.8 in^2 = $A_s = \rho bd$
No $A_s > A_{smin}/2$? **Asmin Controls**
0.4 in^2 = $A_{smin}/2 = .0018bh/2$ (Provide bars at the top and the bottom of Footing)
Provide #6@12" o.c. transverse bars T&B

Uplift Check: (0.6DL + .7E)
29.84 kips Total DL per RISA Output
80.19 kips Additional DL From Foundations
66.02 kips Total DL (0.6)
34.11 kips Uplift Load (0.75(0.7E)) - Per RISA Output
TRUE Downward Force ≥ Uplift?

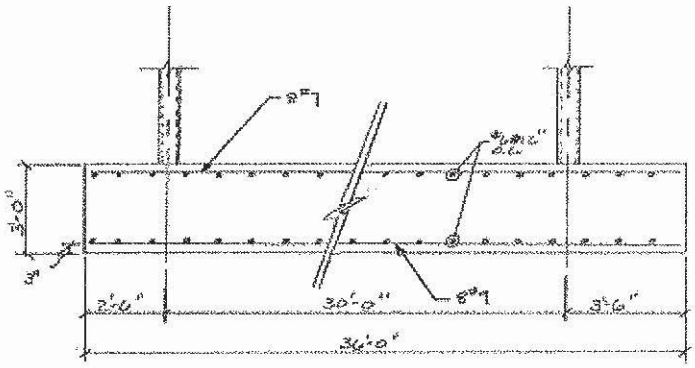
Lateral Resistance Check: (0.6DL + 0.7E)
36.18 kips Worst Case shear at base (0.7E)
0.25 Coefficient of Friction, μ
149.67 kips Total DL
37.42 kips Frictional Resistance
OK Frictional Resistance ≥ Applied Lateral Force?

Passive Earth Pressure:

Passive Earth Pressure Check not Required

Summary:

Provide a Combined footing, 36'x6'x36" between Columns B4 & C4 w/ 8-#9 longitudinal bottom, 8-#7 longitudinal top, & #6@12" o.c. transverse top and bottom.



PARSONS BRINCKERHOFF

Subject:	CIDC Battalion HQ - Foundation Design
	Design for Uplift Loads

Page:	____ of ____
Made by:	MTS
Date:	7-Jun-2012
Checked by:	
Date:	

24035A

Footing Design:

The base load reactions shown were determined using the RISA analysis model.

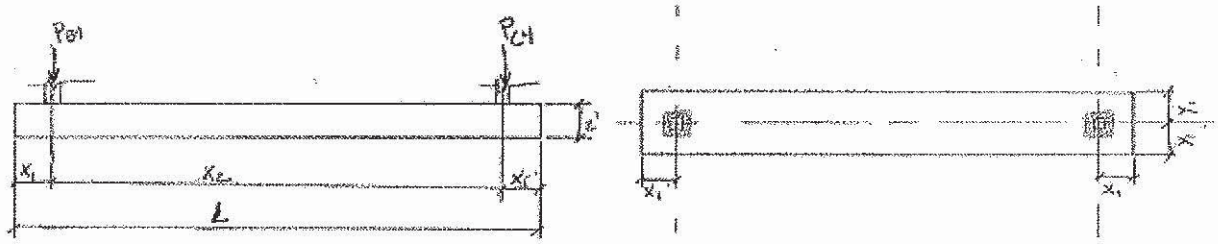
The Design considers a combined footing.

Columns: **D7 & C7**

N7 & N14 RISA Joint Label

Footing Characteristics:

Footing Size		*Soil*		*Additional DL:*	
34.00 ft	Length, L	1.50 ft	Top of Footing	91.80 kips	Footing Weight
6.00 ft	Width, b	0.120 ksf	Weight of Soil	59.94 kips	Soil Weight
36 in	depth, h	0.150 ksf	Weight of Conc.		



Bearing Capacity Check:

1550 psf = $q_e = q - w_c h$ Maximum allowable equivalent soil bearing pressue

q = 2000 psf

w_c = 150 pcf

h = 36 in

12.09 ft = $x_o = x_1 P_{C7} + (x_1+x_2)P_{D7}/(P_{C7} + P_{D7})$

25 ft = $L = 2x_o$

6 ft = $B = (P_{C7} + P_{D7})/(q_e L) > 6ft$

(Note: B_{min} = 6' - 0")

P_{C7} = 47.79 kips

P_{D7} = 23.60 kips

x_1 = 2.50 ft

x_2 = 29.00 ft

Therefore: Provide a 34'x6' combined footing

Check Punching Shear:

178.00 in = bo = 4(c + d) (Same for Both Columns)

P_{uC7} = 64.86 kips

P_{uD7} = 41.79 kips

206.9 kips = $V_u = P_{uC7} - 2q_u(c+d)$

1097.63 kips = $\phi V_c = 4\phi d b_o \lambda \sqrt{f'_c}$

OK $\phi V_c \geq V_u$?

q_u = 2325 psf ($1.5q_e$)

c = 12.0 in

d = 32.5 in (h - 3.5in)

λ = 1.00

Therefore: **Punching Shear is OK**

f'_c = 4000 psi
ϕ = 0.75
fy = 60000 psi

Check 30' Span:

202.28 kips = $V_u = q_u B x_2/2$
221.99 kips = $\phi V_c = 2\phi d b \lambda \sqrt{f'_c}$
OK $\phi V_c \geq V_u$?

488.83 ft kips = $M_u = q_u B x_2^2/24$ Maximum Negative Moment (Midspan Between Columns)
0.00144 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c))})/f_y$
3.4 in^2 = $A_s = \rho bd$
4.7 in^2 = $A_{smin} = .0018bh$
No $A_s > A_{smin}$? **Asmin Controls**
Provide 8-#7 Top Longitudinal

977.66 ft kips = $M_u = q_u B x_2^2/12$ Maximum Positive Moment (At Columns)
0.00293 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c))})/f_y$
6.9 in^2 = $A_s = \rho bd$
YES $A_s > A_{smin}$? **As Contols**
Provide 8-#9 Bottom under the Columns

181.64 ft kips = $M_u = q_u L(B/2 - c/2)^2/2$ Maximum Moment in Transverse Direction
0.00053 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c))})/f_y$
1.2 in^2 = $A_s = \rho bd$
No $A_s > A_{smin}/2$? **Asmin Controls**
0.4 in^2 = $A_{smin}/2 = .0018bh/2$ (Provide bars at the top and the bottom of Footing)
Provide #6@12" o.c. transverse bars T&B

Uplift Check: (0.6DL + .7E)
29.02 kips Total DL per RISA Output
75.87 kips Additional DL From Foundations
62.93 kips Total DL (0.6)
15.85 kips Uplift Load (0.75(0.7E)) - Per RISA Output
TRUE Downward Force ≥ Uplift?

Lateral Resistance Check: (0.6DL + 0.7E)
29.31 kips Worst Case shear at base (0.7E)
0.25 Coefficient of Friction, μ
133.88 kips Total DL
33.47 kips Frictional Resistance
OK Frictional Resistance ≥ Applied Lateral Force?

Passive Earth Pressure:
Passive Earth Pressure Check not Required

Summary:

Provide a Combined footing, 34'x6'x36" between Columns C7 & D7 w/ 8-#9 longitudinal bottom, 8-#7 longitudinal top, & #6@12" o.c. transverse top and bottom.

PARSONS BRINCKERHOFF

Subject:	CIDC Battalion HQ - Foundation Design	*Page:* ____ of ____	24035A
	Design for Uplift Loads	*Made by:* MTS	
		Date: 7-Jun-2012	
		Checked by:	
		Date:	

Footing Design:

The base load reactions shown were determined using the RISA analysis model.

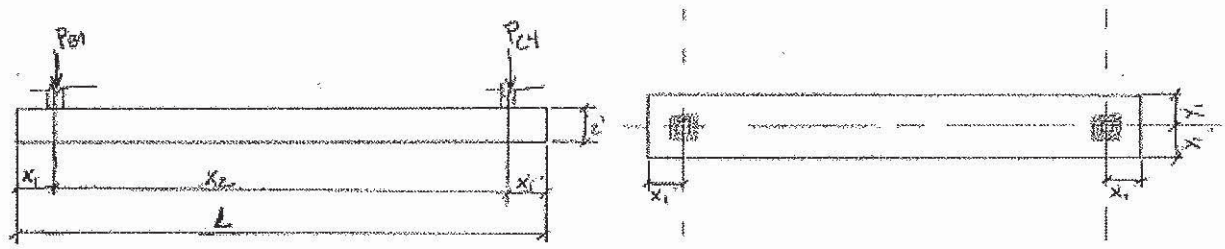
The Design considers a combined footing.

Columns: **B1 & A1**

N15 & N22 RISA Joint Label

Footing Characteristics:

Footing Size		*Soil*		*Additional DL:*	
34.00 ft	Length, L	1.50 ft	Top of Footing	91.80 kips	Footing Weight
6.00 ft	Width, b	0.120 ksf	Weight of Soil	59.94 kips	Soil Weight
36 in	depth, h	0.150 ksf	Weight of Conc.		



Bearing Capacity Check:

1550 psf = $q_e = q - w_c h$ Maximum allowable equivalent soil bearing pressue

q = 2000 psf

w_c = 150 pcf

h = 36 in

21.49 ft = $x_o = x_1 P_{A1} + (x_1+x_2)P_{B1}/(P_{A1} + P_{B1})$

43 ft = $L = 2x_o$

6 ft = $B = (P_{A1} + P_{B1})/(q_e L) > 6ft$

(Note: B_{min} = 6' - 0")

P_{A1} = 15.18 kips

P_{B1} = 28.80 kips

x_1 = 2.50 ft

x_2 = 29.00 ft

Therefore: Provide a 34'x6' combined footing

Check Punching Shear:

178.00 in = $bo = 4(c + d)$ (Same for Both Columns)

P_{uA1} = 35.39 kips

206.9 kips = $V_u = P_{uA1} - 2q_u(c+d)$

P_{uB1} = 51.86 kips

1097.63 kips = $\phi V_c = 4\phi d b_o \lambda \sqrt{f'_c}$

q_u = 2325 psf (1.5q_e)

OK $\phi V_c \geq V_u$?

c = 12.0 in

d = 32.5 in (h - 3.5in)

λ = 1.00

Therefore: **Punching Shear is OK**

f'_c = 4000 psi
ϕ = 0.75
fy = 60000 psi

Check 30' Span:

202.28 kips = $V_u = q_u B x_2/2$
221.99 kips = $\phi V_c = 2\phi d b \lambda \sqrt{f'_c}$
OK $\phi V_c \geq V_u$?

488.83 ft kips = $M_u = q_u B x_2^2/24$ Maximum Negative Moment (Midspan Between Columns)
0.00144 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
3.4 in^2 = $A_s = \rho bd$
4.7 in^2 = $A_{smin} = .0018bh$
No $A_s > A_{smin}$? **Asmin Controls**
Provide 8-#7 Top Longitudinal

977.66 ft kips = $M_u = q_u B x_2^2/12$ Maximum Positive Moment (At Columns)
0.00293 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
6.9 in^2 = $A_s = \rho bd$
YES $A_s > A_{smin}$? **As Contols**
Provide 8-#9 Bottom under the Columns

312.42 ft kips = $M_u = q_u L(B/2 - c/2)^2/2$ Maximum Moment in Transverse Direction
0.00092 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
2.2 in^2 = $A_s = \rho bd$
No $A_s > A_{smin}/2$? **Asmin Controls**
0.4 in^2 = $A_{smin}/2 = .0018bh/2$ (Provide bars at the top and the bottom of Footing)
Provide #6@12" o.c. transverse bars T&B

Uplift Check: (0.6DL + .7E)
22.96 kips Total DL per RISA Output
75.87 kips Additional DL From Foundations
59.30 kips Total DL (0.6)
15.85 kips Uplift Load (0.75(0.7E)) - Per RISA Output
TRUE Downward Force ≥ Uplift?

Lateral Resistance Check: (0.6DL + 0.7E)
24.80 kips Worst Case shear at base (0.7E)
0.25 Coefficient of Friction, μ
117.43 kips Total DL
29.36 kips Frictional Resistance
OK Frictional Resistance ≥ Applied Lateral Force?

Passive Earth Pressure:

Passive Earth Pressure Check not Required

Summary:

Provide a Combined footing, 34'x6'x36" between Columns A1 & B1 w/ 8-#9 longitudinal bottom, 8-#7 longitudinal top, & #6@12" o.c. transverse top and bottom.

PARSONS BRINCKERHOFF

Subject:	CIDC Battalion HQ - Foundation Design
	Design for Uplift Loads

Page:	of
Made by:	MTS
Date:	7-Jun-2012
Checked by:	
Date:	

24035A

Footing Design:

The base load reactions shown were determined using the RISA analysis model.

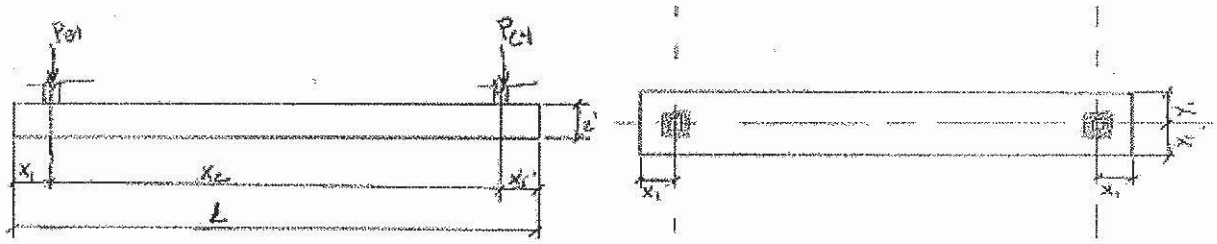
The Design considers a combined footing.

Columns: **C3 & C4**

N10 & N11 RISA Joint Label

Footing Characteristics:

Footing Size		*Soil*		*Additional DL:*	
38.00 ft	Length, L	1.50 ft	Top of Footing	99.75 kips	Footing Weight
5.00 ft	Width, b	0.120 ksf	Weight of Soil	59.04 kips	Soil Weight
42 in	depth, h	0.150 ksf	Weight of Conc.		



Bearing Capacity Check:

1475 psf = $q_e = q - w_c h$ Maximum allowable equivalent soil bearing pressue

$q = 2000$ psf

$w_c = 150$ pcf

$h = 42$ in

19.20 ft = $x_o = x_1 P_{C3} + (x_1+x_2)P_{C4}/(P_{C3} + P_{C4})$

39 ft = $L = 2x_o$

6 ft = $B = (P_{C3} + P_{C4})/(q_e L) > 6$ft

(Note: $B_{min} = 6' - 0''$)

$P_{C3} = 44.26$ kips

$P_{C4} = 45.36$ kips

$x_1 = 2.50$ ft

$x_2 = 33.00$ ft

Therefore: Provide a 38'x5' combined footing

Check Punching Shear:

202.00 in = $b_o = 4(c + d)$ (Same for Both Columns)

$P_{uC3} = 60.04$ kips

$P_{uC4} = 84.26$ kips

223.5 kips = $V_u = P_{uC4} - 2q_u(c+d)$

1475.58 kips = $\phi V_c = 4\phi d b_o \lambda \sqrt{f'_c}$

OK $\phi V_c \geq V_u$?

$q_u = 2213$ psf ($1.5q_e$)

$c = 12.0$ in

$d = 38.5$ in (h - 3.5in)

$\lambda = 1.00$
$f'_c = 4000$ psi
$\phi = 0.75$
fy = 60000 psi

Therefore: Punching Shear is OK

Check 33' Span:

182.53 kips = $V_u = q_u B x_2/2$
219.15 kips = $\phi V_c = 2\phi d b \lambda \sqrt{f'_c}$
OK $\phi V_c \geq V_u$?

501.96 ft kips = $M_u = q_u B x_2^2/24$ Maximum Negative Moment (Midspan Between Columns)
0.00127 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
2.9 in^2 = $A_s = \rho bd$
4.5 in^2 = $A_{smin} = .0018bh$
No $A_s > A_{smin}$? **Asmin Controls**
Provide 8-#7 Top Longitudinal

1003.92 ft kips = $M_u = q_u B x_2^2/12$ Maximum Positive Moment (At Columns)
0.00256 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
5.9 in^2 = $A_s = \rho bd$
YES $A_s > A_{smin}$? **As Contols**
Provide 8-#9 Bottom under the Columns

172.58 ft kips = $M_u = q_u L(B/2 - c/2)^2/2$ Maximum Moment in Transverse Direction
0.00043 = $\rho = 0.85f'_c(1-\sqrt{(1-M_u/(.383bd^2f'_c)})/f_y$
1.0 in^2 = $A_s = \rho bd$
No $A_s > A_{smin}/2$? **Asmin Controls**
0.5 in^2 = $A_{smin}/2 = .0018bh/2$ (Provide bars at the top and the bottom of Footing)
Provide #6@12" o.c. transverse bars T&B

Uplift Check: (0.6DL + .7E)
27.50 kips Total DL per RISA Output
79.40 kips Additional DL From Foundations
64.14 kips Total DL (0.6)
33.30 kips Uplift Load (0.75(0.7E)) - Per RISA Output
TRUE Downward Force ≥ Uplift?

Lateral Resistance Check: (0.6DL + 0.7E)
16.80 kips Worst Case shear at base (0.7E)
0.25 Coefficient of Friction, μ
149.05 kips Total DL
37.26 kips Frictional Resistance
OK Frictional Resistance ≥ Applied Lateral Force?

Passive Earth Pressure:

Passive Earth Pressure Check not Required

Summary:

Provide a Combined footing, 38'x5'x42" between Columns C3 & C4 w/ 8-#9 longitudinal bottom, 8-#7 longitudinal top, & #6@12" o.c. transverse top and bottom.

APPENDIX D

ELECTRICAL CALCULATIONS

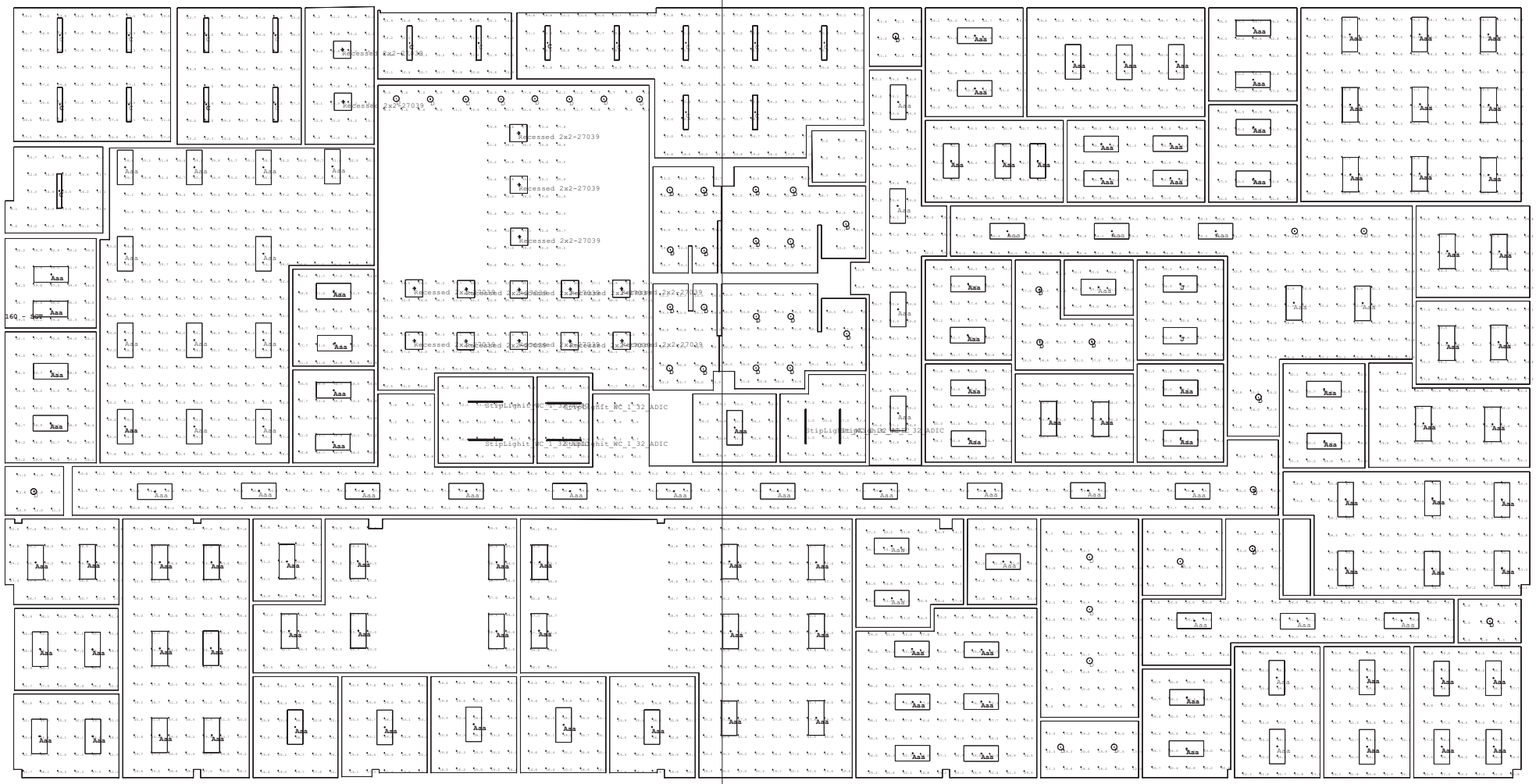
Criminal Investigation Command **Field Operations Building** Batttalion Headquarters Adapt-Build Fort Lewis, WA	**Parsons Brinckerhoff** 465 Spring Park Place Herndon, VA 20170

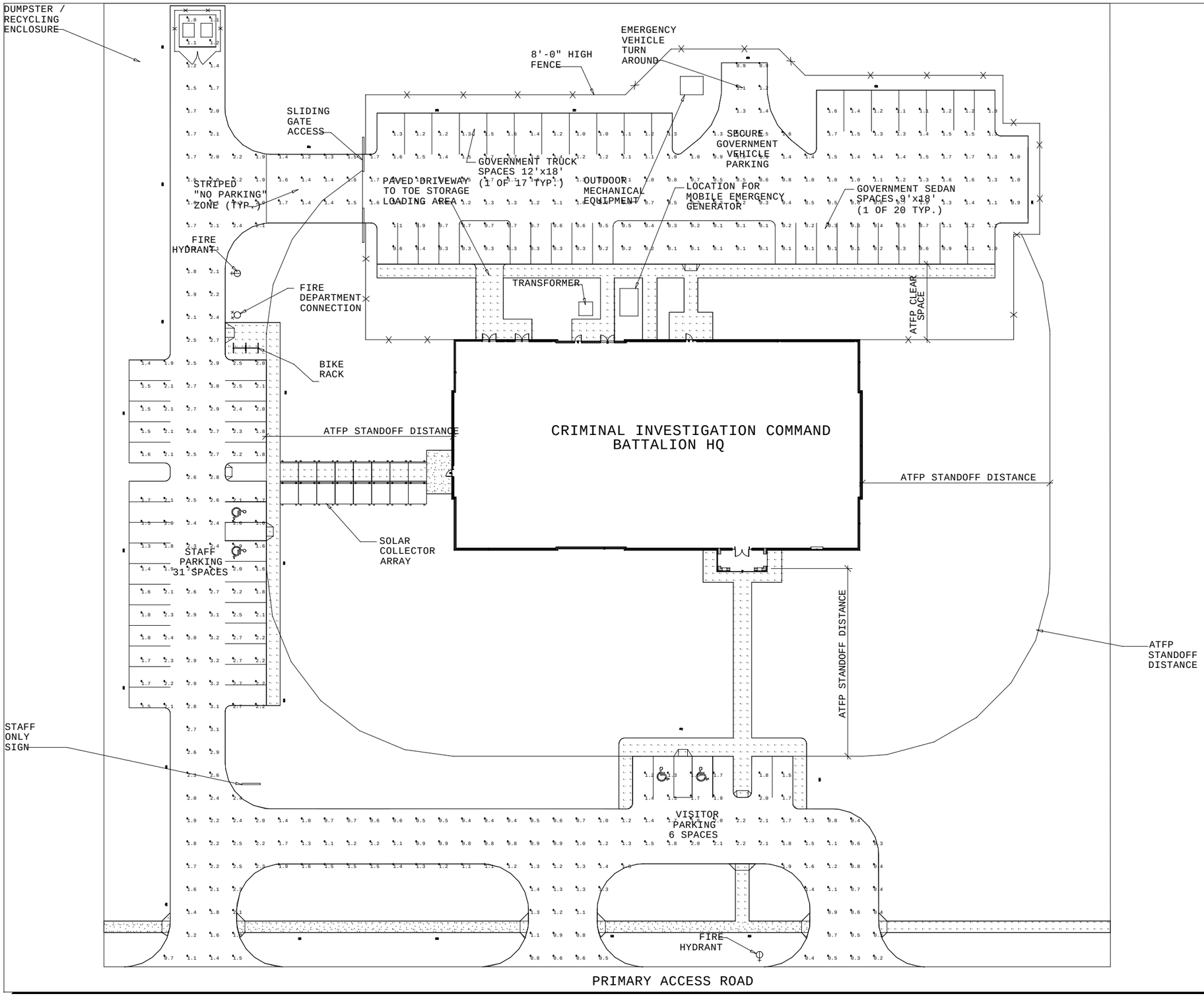
Date:6/21/2012

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
101 - Visitor Waiting_Floor	Fc	12.64	18.9	4.3	2.94	4.40
103 - Corridor_Floor	Fc	23.55	31.4	12.3	1.91	2.55
103A - Closet_Workplane	Fc	4.51	4.6	4.3	1.05	1.07
104 - Office Support Tech_Workpl	Fc	43.33	56.5	30.6	1.42	1.85
104 Vending_Workplane	Fc	38.52	54.8	14.3	2.69	3.83
105 - Toilet_Floor	Fc	9.28	10.5	7.4	1.25	1.42
105 Corridor_Floor	Fc	24.36	30.5	2.8	8.70	10.89
106 - CMD SGM_Workplane	Fc	36.42	49.4	23.9	1.52	2.07
108 - Exec Officer_Workplane	Fc	36.23	49.0	23.8	1.52	2.06
109 - Command Conference_Workpla	Fc	52.28	63.6	18.9	2.77	3.37
110 - Commander_Workplane	Fc	60.06	70.8	42.3	1.42	1.67
112 - CID OPS_Workplane	Fc	44.43	57.3	31.3	1.42	1.83
112 Supply_Floor	Fc	21.32	26.5	15.6	1.37	1.70
113 - Log Security_Workplane	Fc	44.72	58.5	31.3	1.43	1.87
113 S-4_Workplane	Fc	41.23	53.7	23.9	1.73	2.25
114 - S-2 S-3_Workplane	Fc	32.29	48.4	10.3	3.13	4.70
116 - OPS NCO_Workplane	Fc	40.50	55.2	26.2	1.55	2.11
117 - Open Area S-2_Floor	Fc	25.11	35.1	11.4	2.20	3.08
118 - Forensics_Workplane	Fc	41.50	56.7	27.1	1.53	2.09
119 - Crim Intel_Workplane	Fc	46.70	58.6	35.3	1.32	1.66
120 - General Storage_Floor	Fc	42.11	53.0	28.5	1.48	1.86
120 - Open Area S-2 S-3_Workpla	Fc	56.37	74.1	28.1	2.01	2.64
122 - Supr Ormi Invest_Workplane	Fc	44.47	57.7	31.0	1.43	1.86
123 - Corridor_Floor	Fc	17.46	23.9	9.4	1.86	2.54
124 - Secure Storage_Floor	Fc	52.93	64.7	37.9	1.40	1.71
125 - Observation Room_Workplane	Fc	37.15	45.3	31.3	1.19	1.45
126A Classroom_Workplane	Fc	29.14	46.5	8.0	3.64	5.81
127 - Poly Exam_Workplane	Fc	30.94	40.4	21.9	1.41	1.84
127 Telecom_Floor	Fc	10.44	13.4	6.6	1.58	2.03
127A SIPRNET_Floor	Fc	14.01	16.8	10.3	1.36	1.63
128 - Evidence Processing_Workpl	Fc	39.43	53.1	25.0	1.58	2.12
129 - Poly Off W-3_Workplane	Fc	40.48	55.2	26.0	1.56	2.12
130 - Evidence Depository_Floor	Fc	32.45	42.8	19.5	1.66	2.19
131 - Poly Off W-2_Workplane	Fc	44.39	57.7	30.8	1.44	1.87
132 - Janitor_Floor	Fc	0.00	0.0	0.0	N.A.	N.A.
133 - Corridor_Floor	Fc	25.43	29.9	11.9	2.14	2.51
134 - Women_Floor_1	Fc	24.95	36.2	12.9	1.93	2.81
134A - WomenSHWRS_Floor	Fc	25.48	33.9	14.9	1.71	2.28
136 - Men_Floor	Fc	23.34	36.2	10.5	2.22	3.45
136A - MensSHWRS_Floor	Fc	25.42	34.0	14.5	1.75	2.34
137 - CBRN Staff_Workplane	Fc	44.65	58.2	31.5	1.42	1.85
138 - Duty Off_Workplane	Fc	29.73	41.8	21.0	1.42	1.99
139 - TeleComm2_Workplane	Fc	15.78	21.0	8.4	1.88	2.50
140 - Break RM_Workplane	Fc	54.80	77.0	22.8	2.40	3.38
141 - Message Center_Workplane	Fc	29.98	41.8	21.5	1.39	1.94
142 - S-1 Officer_Workplane	Fc	23.82	38.7	13.7	1.74	2.82
143 - Open Area S-1_Workplane	Fc	37.32	54.7	13.2	2.83	4.14
144 - SR HR SGT_Workplane	Fc	24.06	39.0	14.2	1.69	2.75
146 - SR Maint Super_Workplane	Fc	24.05	38.9	14.2	1.69	2.74
147A - Storage_Floor	Fc	14.28	18.3	9.2	1.55	1.99
148 - Supply MGR_Workplane	Fc	23.83	39.0	13.9	1.71	2.81
150 - S-4 MGR_Workplane	Fc	23.79	38.6	14.1	1.69	2.74
152 - Section Chief_Workplane	Fc	43.92	56.1	31.1	1.41	1.80
154 - S-6 Officer_Workplane	Fc	44.43	57.2	31.6	1.41	1.81
156 - Supply_Floor	Fc	31.54	39.8	20.5	1.54	1.94
157 - Open Area S-6_Workplane	Fc	47.82	64.2	27.6	1.73	2.33
158 - Commander_Workplane	Fc	37.30	53.9	22.1	1.69	2.44
159 - Open Area COF_Workplane	Fc	46.20	64.0	10.5	4.40	6.10
160 - SGT_Workplane	Fc	48.74	68.0	30.2	1.61	2.25
161 - TOE Stor_Floor	Fc	25.37	32.5	17.1	1.48	1.90
162 - Arms Vault_Floor	Fc	11.84	14.6	7.6	1.56	1.92
163 - Supply_Floor	Fc	29.11	35.4	20.2	1.44	1.75
164 - Chaplain_Workplane	Fc	45.28	58.5	31.3	1.45	1.87
165 - Chaplain Assist_Workplane	Fc	47.58	59.4	36.0	1.32	1.65
B01 - Vest_Floor	Fc	16.57	20.0	12.4	1.34	1.61
B05 - Mechanical_Floor	Fc	26.45	35.9	13.5	1.96	2.66
B06 - Elec_Floor	Fc	20.68	24.7	15.1	1.37	1.64
B07 - Vest_Floor	Fc	11.86	13.2	10.9	1.09	1.21
B09 - Vest_Floor	Fc	11.81	12.9	11.1	1.06	1.16

Criminal Investigation Command **Field Operations Building** Battalion Headquarters Adapt-Build Fort Lewis, WA	**Parsons Brinckerhoff** 465 Spring Park Place Herndon, VA 20170

Date:6/21/2012




DUMPSTER / RECYCLING ENCLOSURE
EMERGENCY VEHICLE TURN AROUND
8'-0" HIGH FENCE
SLIDING GATE ACCESS
SECURE GOVERNMENT VEHICLE PARKING
GOVERNMENT TRUCK SPACES 12'x18' (1 OF 17 TYP.)
STRIPED "NO PARKING" ZONE (TYP.)
PAVED DRIVEWAY TO TOE STORAGE LOADING AREA
OUTDOOR MECHANICAL EQUIPMENT
LOCATION FOR MOBILE EMERGENCY GENERATOR
GOVERNMENT SEDAN SPACES 9'x18' (1 OF 20 TYP.)
FIRE HYDRANT
FIRE DEPARTMENT CONNECTION
TRANSFORMER
ATFP CLEAR SPACE
BIKE RACK
ATFP STANDOFF DISTANCE
CRIMINAL INVESTIGATION COMMAND BATTALION HQ
ATFP STANDOFF DISTANCE
SOLAR COLLECTOR ARRAY
STAFF PARKING 31 SPACES
ATFP STANDOFF DISTANCE
ATFP STANDOFF DISTANCE
STAFF ONLY SIGN
VISITOR PARKING 6 SPACES
FIRE HYDRANT
PRIMARY ACCESS ROAD

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
BTH_Planar	Fc	1.42	3.2	0.1	14.20	32.00
Island Sidewalk 1_Planar	Fc	0.47	1.0	0.1	4.70	10.00
Island Sidewalk 2_Planar	Fc	1.22	2.0	0.8	1.53	2.50
Island Sidewalk 3_Planar	Fc	1.19	2.2	0.7	1.70	3.14
Island Sidewalk 4_Planar	Fc	0.03	0.2	0.0	N.A.	N.A.
North Sidewalk_Planar	Fc	0.84	6.9	0.1	8.40	69.00
South Sidewalk_Planar	Fc	1.28	6.1	0.0	N.A.	N.A.
West Sidewalk_Planar	Fc	1.56	6.6	0.1	15.60	66.00

APPENDIX E

ENERGY MODELING

CORRECTED FINAL SUBMISSION
12 SEPTEMBER 2012

Energy Modeling Approach and Simulation Parameters

(This process is specifically written to address the Detachment 24 Building, however the process for modeling the other three buildings is essentially the same.)

Comparison

The "Alternative 1" is set up as the Baseline Alternative, which complies with ASHRAE 90.1-2007. "Alternative 2" and "Alternative 3" are set up as Design Alternatives. The form, fabric, and system information between "Alternative 2" and "Alternative 3" is the same. The two Design Alternatives differ in the primary cooling plant – "Alternative 2" uses a cooling tower and "Alternative 3" uses an air-cooled chiller.

Per ASHRAE 90.1-2007 requirements, the following are included in the model:

- Energy parameters are set to calculate 8760 simulation hours.
- Alternative 1 is set as the "Base Alternative" for "Economic comparison."
- Alternative 1 is set as the "Base Alternative" for "Performance rating method" and Alternative 1 is set to "Rotate and average PRM results."

Weather Data

The weather data is taken from the Department of Energy website as a *.bin file, changed to a *.tmy file, and imported into the Trane TRACE 700 weather library.

Weather overrides have been set for the 1% ASHRAE Summer Design Cooling and 99.6% for the Winter Design Heating, per ASHRAE 90.1-2007 energy simulation requirements.

Energy Cost Rates

Annual energy costs are determined using state average unit prices from EIA, which is updated annually on EIA's website (www.eia.doe.gov).

Schedules and Internal Loads

Schedules are set to model hourly variations in occupancy, lighting power, miscellaneous equipment power, and HVAC system operations, and are defined separately for each day of the week and holidays per ASHRAE 90.1-2007 requirement. Modeling the thermostat set points is explained below.

Occupancy

The expected occupancy for the CIDC building is from 0630 to 2000. Due to TRACE's limitations dealing with fractional hours, the hours from 0600 to 0700 are staffed at 50 percent, and the hours from 0700

to 2000 are staffed at 100 percent for Monday to Sunday and 0 percent from midnight to midnight for holidays. Occupancy is defined room-by-room according to the Standard Design Criteria.

Lights

The lighting schedule is set to match the occupancy schedule with the exception that during unoccupied hours, the lighting power is set to 5 percent to account for emergency lighting. In the Baseline Building, the lighting power density is defined at the template level. In the Design Alternatives, the lighting power density is defined at the room level as the lighting power density requirements are satisfied via Space-by-Space Method.

In the design alternatives, the lighting power densities are reduced by 10% for any space that has occupancy sensors, per ASHRAE 189.1 requirements for energy modeling.

Miscellaneous Equipment

This loading is defined with the Occupancy Schedule. Miscellaneous equipment defines receptacle loads, exclusively. Area-based loading is derived from ASHRAE 90.1-1989 and is assumed to be 0.75 W/sf.

Ventilation

Vent schedules match the occupancy schedule as the intent is to close outdoor air dampers during unoccupied mode, and the system shall re-circulate air to maintain temperature drift points.

The Design Alternatives apply ASHRAE 62.1 ventilation requirements on a template and room level. The template defines the typical space-type as “Office space” and any rooms that deviate from this space-type are defined at the room level. The option to “Apply ASHRAE Std 62.1-2004/2007” is selected and the “System Ventilation Flag” is set to “ASHRAE Standard 62.1-2004/2007.” This sets the program to use equations from ASHRAE 62.1 to calculate the system-level ventilation requirement, based on the room ventilation requirements. Per ASHRAE 90.1, demand control ventilation (DCV) is required for the Command Conference Room, Multi-purpose Lounge, Large Interview Room (Room 281), and Suspect Waiting Room. These rooms are served by the Primary and Secondary VAV Systems, therefore, these two systems have their “System Ventilation Flags” set to “ASHRAE 62.1-2004/2007 w/ Vent Reset.” Proportional control is selected allowing the outdoor air controller to adjust the outdoor air intake flow proportionally between the minimum ventilation flow and the design ventilation flow.

Zone distribution effectiveness for cooling is defined as 100 percent based on a ceiling supply and ceiling return and 100 percent for heating assuming the “worst case scenario” for a ceiling supply and ceiling return.

ASHRAE 90.1, G3.1.2.5 requires that ventilation rates for the Baseline and Design Alternatives be the same. In order to ensure this requirement, the Baseline Building ventilation rates are determined by taking the total ventilation requirement for all systems in the design case, totaled, and divided by the building area. This provides for a ventilation rate per area for the Baseline Building. The application of ASHRAE 62.1 Standard is disabled, and the ventilation rates previously calculated are applied for cooling

and heating modes. At the system level, the “System ventilation flag” is defined as “Sum Room OA Reqs.” This sets the program to sum the (user-defined) individual room ventilation requirements to calculate the system-level ventilation requirement.

In both Baseline and Design Alternatives, “people-averaging” is not used – the ventilation rates are based on highest, user-defined occupancy.

Room exhaust rates are calculated based on ASHRAE 62.1 requirements and are the same in the Baseline and Design Alternatives.

Thermostat Set Points

Schedules are not defined for thermostat set points. Cooling and heating dry bulb temperatures, relative humidity, and cooling and heating drift points are defined. TRACE allows the room temperature to drift to the user-defined temperature drift point during the hours in which the Occupancy Schedule reads 5 percent or less; if the Occupancy Schedule reads greater than 5 percent, the thermostat will try to control the room to the design room dry bulb temperature.

Thermostat sensors are located at the zone level per ASHRAE 90.1, Section 6.4.3.1.1.

Building Form

The “Spaces” in Autodesk Revit bring door, window, wall, partition, roof, and floor information into Trane TRACE via gbXML.

The National Renewable Energy Laboratory (NREL) published a report on the typical infiltration rates for large office buildings based on ASHRAE 90.1-1989, the latest version which includes infiltration requirements. Since air barrier requirements are introduced in ASHRAE 90.1-2010 and 189.1-2009, tests were performed on large office buildings to compare results. The infiltration rates are labeled in terms of air changes per hour. The 1989 values are used as the baseline infiltration and the 2010 values are used as the design. The maximum infiltration rates (which occur during non-operating hours), for the baseline and design, are modeled for perimeter zones and for the core zones. A “Utilization Schedule” is created to step down the infiltration rates by a specified percentage during occupancy. The schedule is applied to all spaces, and each space is distinguished by perimeter zone or core zone. This set-up simulates a lower infiltration rate during occupancy, and the design case models a lower all-around infiltration rate based on the envelope requirements from ASHRAE 90.1-2010 and 189.1-2009.*Roofs*

Roof area and orientation is determined by projecting the roof line over a floor plan layout and determining the projected area of the roof over each space and is divided according to orientation. The actual area is determined by developing a multiplication factor from the cosine-based relationship between the projected area and the actual roof area. The angle for this calculation is determined by converting the slope, 4:12, to degrees. The pitch angle is taken from the vertical plane and rotates toward the sky; therefore the 4:12 slope from the 90° vertical plane gives TRACE’s roof pitch.

The TRACE program is limited in accurately modeling a building with an attic space, so a substitute is provided. The heat transfer from the roof to the plenum is modeled as a single construction element – the roof is modeled with roof components and the gypsum board and insulation layers separating the attic and the plenum.

Shading Devices

The shading devices modeled are unique to each building. This device is applied over window opening in the exterior wall.The Battalion HQ shading device is modeled as equivalent to the design intent by considering the Projection Factor for the designed shading device and applying a shading device that provides the same Projection Factor. Per ASHRAE 90.1 requirements, the shading device is applied only to the Design Alternative; manual internal shading devices are not modeled in either the Baseline Building or the Design Alternatives.

Walls

Walls are derived from the "Spaces" created in the Revit model. Adjacencies (or absence of) define interior and exterior walls. Partitions are defined at the template level to have a miniscule U-factor (U=10^-7) to negate the estimation of heat transfer across partitions – this prevents the system coils sizing from being affected by a non-existent load.

Floors

ASHRAE 90.1 provides a minimum F-value (the perimeter heat loss factor for slab-on-grade, expressed in Btu/h·ft·F°) whereas the TRACE input is in the form of a U-value. The conversion is determined by calculating heat loss with the F-value and dividing by area of slab to acquire loss per square foot.

Building Fabric

Per ASHRAE 90.1 requirement, the model is set to calculate heat loss/gain for heat transfer via conduction, internal loads, or solar through the time delay based on actual mass – the program calculates the room specific mass (in lb/sf of floor area).

Custom library construction types are built specifically for this project… The Baseline Building is modeled with envelope values defined by ASHRAE 90.1 for the appropriate Climate Zone. Per ASHRAE 90.1 requirements, the construction types mandated for the Baseline model are as follows: Roofs – Insulation entirely above deck, Above-grade walls – Steel-framed. Slab-on-grade floors shall match the F-factor for unheated slabs from the same tables.

Per ASHRAE 90.1 requirements, all roof surfaces in the Baseline Building are modeled with a reflectivity of 0.30. This translates to TRACE by defining the "Outside shortwave (solar) absorptivity" as 0.7.

Systems

Baseline Building

According to ASHRAE 90.1, the Baseline Building system is a constant volume Packaged Single Zone Air Conditioner with a Fossil fuel furnace. ASHRAE 90.1 requires that for this system, each thermal block is modeled with its own HVAC system. The Baseline Building system in TRACE is the "Single Zone" under the "Constant Volume – Non-mixing" system category. This system has supply fans ("cooling fan") and heating and cooling coils at the zone level and a return fan at the system level.

ASHRAE 90.1 Table G.3.1.2.6A indicates that air-side economizers are required to be modeled in the Baseline Building for the project's climate zone, 3B. Table G.3.1.2.6B states that the high-limit shutoff temperature for the climate zone is 75°F DB. This is addressed in …

On the Energy Parameters dialog box, the "Apply ECB/PRM rules to fan sizing" option is checked and ASHRAE 90.1-2007 is selected from the drop-down menu. This tells TRACE uses the rules stipulated in Section G3.1.2.9 to calculate fan energy rate for energy analysis. This supersedes the fan full load energy rates input on the "Fans" tab under "Create Systems." The fan cycling schedule is set to cycle with all loads, as defined on the "Fans" tab.

Section G3.1.2.8 states that system design supply airflow rates for the Baseline Building shall be based on a supply air/room air temperature difference of 20°F. The thermostat settings for cooling dry bulb and heating dry bulb are 75°F and 70°F, respectively, so in the "Temp/Humidity" tab under "Create Systems," the cooling supply air max and min are set to 55°F and the heating supply air max and min are set to 90°F.

The Baseline Building coil capacities are set to 115% and 125% of the design capacity for the cooling and heating coils, respectively. Should the number of unmet load hours for Design Alternative exceed the Baseline Building by more than 50, simulated capacities in the Baseline Building shall be decreased incrementally and the building re-simulated until the unmet load hours are within 50 of the unmet load hours of the proposed design. If unmet load hours for the Design Alternative or Baseline Building exceed 300, simulated capacities shall be increased incrementally, and the building with unmet loads re-simulated until unmet load hours are reduced to 300 or less.

Design Alternative1

Central systems include the two VAV systems – one which serves the "Administrative Areas" of the building and the other serving the "Special Uses Area" of the building. The system type is variable air volume with baseboard heating about the exterior zones. The Administrative Area system is labeled "Primary – VAV w/ BB" and the Special Uses system is labeled "Secondary – VAV w/ BB." A central fan, optional exhaust/return fan, preheat coil, and cooling coil is defined at the system level. Baseboard heaters and VAV terminals (auxiliary fans) are defined at the zone level. The TRACE program begins the simulation by calculating what effect the operation of the OA-controlled baseboard units will have on the room's drift temperature. This heat output is determined by the outdoor air reset schedule. For these systems, the "Reset per worst case room" is set to "Off" and "Use system default outside air reset" is checked – the system default to a reset schedule defined for the system type. In this system, the default reset schedule assumes that the output of the baseboard units is proportional to the room heating-thermostat-to-outside-air temperature difference. During setback periods, the baseboard

heating output is modulated downward proportionally to the amount of degrees setback from the daytime heating setpoint. The heat output of the OA-controlled baseboard unit adds additional heat gain to the space to offset the conduction heat loss. When the drift temperature rises above the hour's cooling thermostat set point, the VAV box opens and delivers a proportionate quantity of supply air to the space – enough cool supply air to bring down and maintain the space temperature according to the thermostat setpoint. So long as the room drift temperature is below the cooling thermostat setpoint this hour, the VAV box is fully closed. While the drift temperature is within the dead band region, there is no air movement and absolutely no cooling can be provided by the main system VAV box. Should the skin heating system not supply enough heat to satisfy the space heating load, the drift temperature will fall below this hour's heating thermostat setpoint.

These systems have air-side economizers set to monitor outdoor dry-bulb temperature.

Spaces that require heating only, i.e. vestibules, are handled by the "Unit Heaters" system type under the "Heating Only" system category. The system is labeled as "CUHs – Vestibules." The system schematic defines a fan and heating coil at the zone level. Each of the individual vestibules and the mechanical rooms are assigned to their own individual zones, therefore TRACE assigns a fan and heating coil to each room. The vestibules have no ventilation requirements set at the rooms, so the coil does not factor in condition ventilation air.

In order to satisfy the ventilation requirements for the Electrical Room, the "Ventilation and Heating" system type is applied (under the "Heating Only" system category). The system is labeled as "FCU – Elec," and the fan and heating coil are set to the system level, therefore only the Electrical Room is applied to this system. The system supplies a constant volume of heated supply air and the heating coil is cycled to meet varying loads. When heating is not needed, the system attempts to bring the space temperatures down using unconditioned ventilation air. The "Return Air Path" is defined as being a "Plenum" return. This allows TRACE to account for loads from the roof, lights, etc in the return air going to the system. The requirement for satisfying cooling is ventilation air, so the room is set to 10 air changes per hour. TRACE does not recognize this air flow rate as ventilation air.

This same system is set up for the Mechanical Room, since the Mechanical Room will have its own dedicated fans and coils. The requirement for satisfying cooling is ventilation air, so the room is set to 6 air changes per hour. TRACE does not recognize this air flow rate as ventilation air.

The Evidence Depository Room requires separate heating, cooling, and ventilation. This is satisfied with the "Fan Coil" system type under the "Constant Volume – Non-mixing" system category. The system is labeled "FCU – Evid Dep" and consists of a zone level fan and heating/cooling coil. TRACE treats this system as a separate fan coil unit, including a fan, cooling coil, and heating coil, located in each room. The program assumes that the fan coil unit is a four-pipe arrangement with heating and cooling coil available year-round. The unit supplies a constant volume of conditioned air to the room, and the coils are cycled to meet the varying load. When the room drift-temperature rises above the room heating thermostat, the heating coil is de-activated, allowing the space temperature to drift upward. Since the supply air will be at the return/outside air dry bulb temperature, scheduling outside air into the space

will temper this effect to some degree. When the room drift-temperature drops below the room heating thermostat, the heating coil is modulated to produce a supply air dry bulb temperature that will bring the room temperature up to the heating thermostat.

Telecommunications Rooms 1 and 2 have similar system setups. These rooms are modeled with separate systems because Telecomm Room 1 does not utilize a cooling coil, and so the cooling coil is placed on a “DUMMY” plant, and the plants will be sized separately according to the load it needs to handle.

The TRACE program requires all spaces to be assigned to systems and all system components to be assigned to a plant regardless of whether the space is being conditioned. This includes interstitial spaces. To circumvent adding additional energy consumption by the system that will not “see” the space, a “DUMMY” system is set in place in which these spaces will be assigned. The particulars on how energy circumvention takes place at the plants set for this system.

Design Alternative 2

The second design alternative differs in the Primary and Secondary System selection—rather than VAV with Skin Baseboard Heating, the systems are set as Fan-Powered Terminal Units with Reheat on the plenum inlet. The other system settings remain unchanged from the first design alternative.

Daylighting Controls

Daylighting controls are utilized throughout all perimeter spaces with windows. To model this, a “Daylighting Controls Definition” is created. Geometry, daylighting control type, room parameters, glass, construction, and internal shade parameters are set here for all Alternatives. The Baseline Building is modeled with no daylighting controls and the Design Alternatives have daylighting controls available, 100%. Daylighting that is added to a space that has no fenestration is ignored by the program. The daylighting controller is the “Std Stepped Controller” template. This controller is added to the “Daylighting Reference Pt 1” under the “Room Parameters” tab.

Plants

Plant capacities are not user-defined. When the value is left blank, TRACE automatically determines plant capacity by summing the coil capacities attached to the plant. The “Equipment type” and “Heat rejection type” determines the equipments’ unloading curves and fundamental energy rates. These pieces of equipment use “Standard” curve types – this selection indicates that a combination of ARI unloading curves and an ambient modification curve will be used to determine the power consumed at each of the hourly load conditions.

Baseline Building

According to ASHRAE 90.1 requirements, the cooling and heating plants for this project size is direct expansion cooling and fossil fuel furnace heating. The plants are labeled as “Cooling plant – 001” and

“Heating plant – 002.” The cooling plant has an “air-cooled unitary” piece of equipment attached with an air-cooled condenser. The heating plant has a “gas-fired heat exchanger” attached.

The cooling equipment type is defined as the “90.1-07 Min PTAC New Cons > 15 MBh Cap.” The sequencing type is defined as “Single” as there is only one piece of equipment that handles the entire cooling load. The equipment is set to reject condenser heat to the “heat rejection equipment,” i.e. the air-cooled condenser. The heat rejection equipment is defined as a “90.1 Min Air Cooled Condenser.” The energy rate is defined by TRACE’s library of minimum efficiency values from ASHRAE 90.1.The heating equipment is defined as the “90.1-07 Min Gas Furnace < 225 MBh.” The energy rate is defined according to the ASHRAE 90.1 requirements.

Design Alternatives 1

The Design Alternatives are set up with a main cooling plant and a main heating plant. These are labeled as “Cooling plant – 001” and “Heating plant – 002,” respectively. Addition cooling plants are in place to handle cooling equipment not addressed by the main cooling plant, e.g. direct expansion for a stand-alone system. “DUMMY” plants are in place to host the “DUMMY” systems required to satisfy TRACE’s requirement for every coil to be hosted by a plant without affection equipment and plant capacity calculations. The “DUMMY” plants are scheduled to “Off” – the equipment is arbitrarily defined as the equipment will not be functioning and therefore do not affect the load or energy consumption.

In the first Design Alternative (TRACE Alternative 2: Design w/ CT), the equipment type is a “water-cooled unitary” unit with a “cooling tower” and “condenser water pump.” The equipment type is defined as “90.1-07 Min Other Heat SS/SP 135-240 MBh.” Sequencing type is “Single” since there is one water-cooled unit. The equipment is set to reject condenser heat to the “Heat rejection equipment,” the “90.1 Min Cooling Tower.”

To ensure maximum effectiveness of the fan coil unit systems, a “Micro-Chiller” plant is modeled to satisfy the cooling load for those spaces. The Micro-Chiller rejects its heat to the Cooling Tower. TRACE is currently incapable of applying systems to specific plant components, so modeling the Micro-Chiller under the same plant as the water-cooled unitary equipment is not feasible. To get the performance benefit of running rejecting heat to an otherwise running cooling tower, the Micro-Chiller plant load is specified to exceed 50% of the total system load. This way, the cooling tower is modeled separately from the cooling tower assigned to the water-cooled unitary equipment, but mimics the heat rejection equipment performance as if the water-cooled unitary equipment and the Micro-Chiller were utilizing the same cooling tower.

The RA 5-9 and the Detachment 24 each have one boiler. The Battalion HQ and the RA 10-15 have two pieces of equipment under the “Heating plant – 002”–both of which are labeled as boilers (“Boiler – 002” and “Boiler – 003”). The two-boiler plants are set so TRACE sizes them to 60% of the total heating load.

Design Alternative 2

The plant used in the second design alternative is an “Air-Cooled Chiller.” Since a chiller is modeled as the primary plant, a Micro-Chiller is not required for the alternative.

Secondly, the loads satisfied by the Micro-Chiller in the first design alternative are distinguished. There are two “air-cooled unitary” units with “air-cooled condenser” units – one of which applies to the Evidence Depository and the other to the Telecommunications Room 2, as these systems are using direct expansion cooling. These are labeled as “Air-cooled condenser – Evid Dep” and “Air-cooled condenser – TR#2.” These units’ equipment types are set to “90.1-07 Min Room AC w/o louvers < 8MBh.”

Base Utilities

Base utilities are used to model loads that are not otherwise calculated by the TRACE program. These loads include exterior lighting and domestic hot water load. To model these loads, the hourly demand, plant (source), and load schedule is specified.

Exterior Lighting

The ext lighting is defined through creating a new "base utility" in TRACE. The requirement for ASHRAE/LEED is to calculate power consumption for the year. ASHRAE requires that the lighting is controlled by a combination of photo sensors and time switches, depending on whether the system is set for dusk-to-dawn operation. This will be handled by creating a new schedule for this base utility. The schedule parameters will be based on the Equinox, so the average amount of daylight for each hour through the span of 24 hours will be proportional to the amount of energy consumed by the ext lighting in the same span of 24 on each hour on a daily basis for an entire year. Using this approach will give accurate energy consumption by the ext lighting for the year, but the estimated energy consumption on a monthly basis is constant, which is not accurate.

The domestic hot water load is modeled as a base utility labeled “Domestic Hot Water Load.” In the Design Alternative, the plant satisfying the load is “Heating plant – 002.” This plant uses a combination of the boiler and solar hot water system to satisfy the load. The Baseline Building uses a separate plant to represent the domestic hot water heater. This equipment type is labeled as “90.1-04 Min (Res) 300-2,500 Mbh.” In both the Baseline Building and the Design Alternative, the hourly demand is the same and the schedules are both set to the occupancy schedule, “People – CIC Det24 Full Year.”

The solar hot water (SHW) system is modeled as a base utility with a negative demand—the domestic water load and heating load covered by the “Heating plant – 002” is credited by the base utility. The maximum capacity of the SHW system is determined based on highest solar insolation value for a fixed number of solar hot water panels. The subsequent monthly capacities are determined based on month’s solar insolation value, the total hours of daylight in a day (determined by parallel for the 20th of each month, based on the solstice), and the number of panels. After the capacity of the SHW system is determined for each month, each month is represented as a percentage of the maximum capacity and is input in a “Utilization Schedule.” Each month is modeled with approximate times of sunrise and sunset for the respective month with the percentage of maximum capacity—the percent capacity is defined

between sunrise and sunset and zero from sunset to sunrise. This schedule is applied to the base utility to credit the “Heating plant – 002” the appropriate amount of load throughout the year.

End of Summary

CIC BATTALION HEADQUARTERS

	Collector Info					Domestic Hot Water			Space Heating							Renewable Energy Production	
Month	Insolation Value (BTU/sf*day)	Day to Month Conversion	DHW flat plate collector area (sf)	System Capacity (BTU/month)	Effective System Capacity (BTU/month)	Domestic Hot Water Load per Day (BTU/day)	Domestic Hot Water Load per Month (BTU/month)	Extra Capacity not used by DHW Load (BTU/month)	Peak Heating Load (BTU/h)	HDD per Month	Assumed Indoor Temperature (°F)	Outdoor Air Temperature (°F)	Heating Requirement (BTU/month)	Heating Requirment for the Month (kBTU)	DHW + Space Heating Requirement (BTU/month)	SHW Capacity Credited to DHW Load (BTU/month)	Extra Capacity Credited to Space Heating (BTU/month)
Jan	261.7	26	1003.75	6829716	6146744	1050840	27321840	-21175096	63492	820	68	20.6	26361235	26361	53683075	6146744	0
Feb	495	24	1003.75	11924550	10732095	1050840	25220160	-14488065	63492	678	68	20.6	21796241	21796	47016401	10732095	0
Mar	849.4	27	1003.75	23019802	20717822	1050840	28372680	-7654858	63492	648	68	20.6	20831806	20832	49204486	20717822	0
Apr	1293.5	25	1003.75	32458766	29212889	1050840	26271000	2941889	63492	512	68	20.6	16459698	16460	42730698	26271000	2941889
May	1713.9	27	1003.75	46448832	41803949	1050840	28372680	13431269	63492	349	68	20.6	11219599	11220	39592279	28372680	11219599
Jun	1801.8	26	1003.75	47022476	42320228	1050840	27321840	14998388	63492	201	68	20.6	6461717	6462	33783557	27321840	6461717
Jul	2248.2	26	1003.75	58672400	52805160	1050840	27321840	25483320	63492	90	68	20.6	2893306	2893	30215146	27321840	2893306
Aug	1616.3	27	1003.75	43803750	39423375	1050840	28372680	11050695	63492	78	68	20.6	2507532	2508	30880212	28372680	2507532
Sep	1147.7	25	1003.75	28800097	25920087	1050840	26271000	-350913	63492	195	68	20.6	6268830	6269	32539830	25920087	0
Oct	456.2	27	1003.75	12363590	11127231	1050840	28372680	-17245449	63492	465	68	20.6	14948749	14949	43321429	11127231	0
Nov	337.2	26	1003.75	8800077	7920069	1050840	27321840	-19401771	63492	666	68	20.6	21410467	21410	48732307	7920069	0
Dec	211.1	26	1003.75	5509182	4958264	1050840	27321840	-22363576	63492	829	68	20.6	26650566	26651	53972406	4958264	0

SHW System Information					Price of Gas Replaced by Renewable Energy				Payback
Number of Panels	Area per Panel (sf)	System Heat Loss Factor	Price per Unit ($/sf)	Install Cost	Total System Use (kBTU)	Energy Conversion (1 Therm = 100 kBTU)	Cost ($/therm)	Total Cost per Year	Length (years)
25	**40.15**	**0.9**	**$72.00**	**$72,270.00**	**251206**	**0.01**	**$0.97**	**$2,443.58**	**30**

Total System Use (kBTU)	251206		Total System Use (kBTU)
Building Conditioned Area (sf)	14517		Building Conditioned Area (sf)
Annual Renewable Energy Production	**17.30**	**kBTU/sf**	Annual Renewable Energy Production

CIC Battalion HQ Adapt-Build Prototype

Location	**Fort Lewis, WA**
Building owner	**US Army Corp of Engineers**
Program user	**JPB**
Company	**Parsons Brinckerhoff**
Comments	**TRACE 700 v6_2_7 - gbXML imported on Thursday, May 03, 2012 at 02:25 PM**
By	**PB**
Dataset name	**C:\Documents and Settings\bouley\Desktop\TRACE Docs\CIDC\BTH\BTH_120817.TRC**
Calculation time	**04:02 PM on 08/30/2012**
TRACE® 700 version	**6.2.7**

Location	**Tacoma/McChord AFB, WA**	
Latitude	**47.2**	**deg**
Longitude	**122.5**	**deg**
Time Zone	**8**	
Elevation	**18**	**ft**
Barometric pressure	**29.9**	**in. Hg**
Air density	**0.0760**	**lb/cu ft**
Air specific heat	**0.2444**	**Btu/lb·°F**
Density-specific heat product	**1.1147**	**Btu/h·cfm·°F**
Latent heat factor	**4,906.9**	**Btu·min/h·cu ft**
Enthalpy factor	**4.5604**	**lb·min/hr·cu ft**
Summer design dry bulb	**82**	**°F**
Summer design wet bulb	**63**	**°F**
Winter design dry bulb	**20**	**°F**
Summer clearness number	**1.00**	
Winter clearness number	**1.00**	
Summer ground reflectance	**0.20**	
Winter ground reflectance	**0.20**	
Carbon Dioxide Level	**400**	**ppm**
Design simulation period	**January - December**	
Cooling load methodology	**TETD-TA1**	
Heating load methodology	**UATD**	

System Checksums

By PB

Default System | **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 5 / 9
Outside Air: OADB/WB/HR: 59 / 47 / 29

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	-98	-98	17
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	-514	-197	-711	125
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-48		-48	8
Sub Total ==>	-562	-296	-858	151
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	-219	219	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	287		287	-50
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		2	2	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	-495	-74	-568	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	-514	108
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-29	6
Sub Total ==>	-543	114
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	-219	46
Ventilation Load	0	0
Adj Air Trans Heat	287	-60
Ov/Undr Sizing	0	0
Grand Total ==>	-475	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-292	12.41
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-914	-1,287	54.73
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-40	-40	1.69
Sub Total ==>	-954	-1,618	68.83
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-661	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	-737	-737	31
Ov/Undr Sizing	0	0	0.01
Exhaust Heat		4	-0.16
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-2,351	-2,351	100.00

TEMPERATURES

	Cooling	Heating
SADB	80.0	55.0
Ra Plenum	75.6	41.7
Return	71.2	41.7
Ret/OA	71.2	41.6
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	1	1
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	52	45
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	1	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	57.5	0.0	0.0	57.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	157		
Part	6,523		
Int Door	0		
ExFlr	0		
Roof	166	0	0
Wall	438	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	41.7	79.7
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

System Checksums

By PB

System - 002 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,999	1,999	9
Glass Solar	7,035	0	7,035	32
Glass/Door Cond	67	0	67	0
Wall Cond	1,077	691	1,768	8
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	65		65	0
Sub Total ==>	8,244	2,690	10,934	50
Internal Loads				
Lights	2,259	565	2,824	13
People	1,800	0	1,800	8
Misc	2,347	0	2,347	11
Sub Total ==>	6,406	565	6,971	32
Ceiling Load	763	-763	0	0
Ventilation Load	0	0	5,140	23
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-1,590	-1,590	-7
Sup. Fan Heat			328	1
Ret. Fan Heat		245	245	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	15,414	1,148	22,029	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	9,014	57
Glass/Door Cond	-352	-2
Wall Cond	1,053	7
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-3	0
Sub Total ==>	9,712	61
Internal Loads		
Lights	2,256	14
People	1,000	6
Misc	2,347	15
Sub Total ==>	5,603	35
Ceiling Load	635	4
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	15,950	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,247	4.68
Glass Solar	0	0	0.00
Glass/Door Cond	-2,321	-2,321	4.83
Wall Cond	-1,541	-2,549	5.31
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-331	-331	0.69
Sub Total ==>	-4,193	-7,448	15.51
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-776	0	0.00
Ventilation Load	0	-19,677	40.96
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-12,459	-12,459	25.94
Exhaust Heat		1,032	-2.15
OA Preheat Diff.		-7,022	14.62
RA Preheat Diff.		-2,460	5.12
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-17,428	-48,033	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.6	67.3
Return	77.7	67.3
Ret/OA	80.4	47.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	837	837
Terminal	837	837
Main Fan	837	837
Sec Fan	0	0
Nom Vent	531	352
AHU Vent	531	352
Infil	6	6
MinStop/Rh	0	0
Return	828	832
Exhaust	521	347
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	63.4	42.0
cfm/ft²	0.91	0.91
cfm/ton	396.67	
ft²/ton	434.34	
Btu/hr·ft²	27.63	-53.74
No. People	4	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	2.1	25.3	22.1	837	79.4	61.6	53.4	55.0	50.9	48.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.1	25.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	917		
Part	8,506		
Int Door	0		
ExFlr	0		
Roof	993	0	0
Wall	919	116	13
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-49.3	837	37.2	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-20.8	837	37.2	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-49.3			

System Checksums

By PB

System - 003 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 14
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,007	1,007	7
Glass Solar	1,840	0	1,840	13
Glass/Door Cond	57	0	57	0
Wall Cond	221	169	391	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	6		6	0
Sub Total ==>	2,124	1,177	3,300	23
Internal Loads				
Lights	1,374	344	1,718	12
People	8,100	0	8,100	56
Misc	1,018	0	1,018	7
Sub Total ==>	10,493	344	10,836	75
Ceiling Load	248	-248	0	0
Ventilation Load	0	0	513	4
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-584	-584	-4
Sup. Fan Heat			225	2
Ret. Fan Heat		171	171	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	12,865	860	14,463	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,705	34
Glass/Door Cond	-82	-1
Wall Cond	270	2
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-2	0
Sub Total ==>	3,892	35
Internal Loads		
Lights	1,374	13
People	4,500	41
Misc	1,018	9
Sub Total ==>	6,893	63
Ceiling Load	183	2
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	10,967	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-997	3.82
Glass Solar	0	0	0.00
Glass/Door Cond	-884	-884	3.39
Wall Cond	-311	-554	2.13
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-144	-144	0.55
Sub Total ==>	-1,338	-2,579	9.89
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-203	0	0.00
Ventilation Load	0	-8,614	33.05
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-10,911	-10,911	41.86
Exhaust Heat		281	-1.08
OA Preheat Diff.		-3,074	11.79
RA Preheat Diff.		-1,169	4.49
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-12,452	-26,066	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.0	68.4
Return	77.2	68.4
Ret/OA	78.9	55.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	576	576
Terminal	576	576
Main Fan	576	576
Sec Fan	0	0
Nom Vent	232	154
AHU Vent	232	154
Infil	3	3
MinStop/Rh	0	0
Return	578	578
Exhaust	235	156
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	40.3	26.7
cfm/ft²	1.45	1.45
cfm/ton	415.43	
ft²/ton	287.07	
Btu/hr·ft²	41.80	-66.48
No. People	18	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.4	16.6	13.8	576	78.9	63.0	60.7	55.0	53.1	57.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.4	16.6								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	398		
Part	3,125		
Int Door	0		
ExFlr	0		
Roof	431	0	0
Wall	217	44	20
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-26.5	576	48.8	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-5.0	576	48.8	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-26.5			

System Checksums

By PB

System - 004 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 13
Outside Air: OADB/WB/HR: 80 / 62 / 54

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	782	782	6
Glass Solar	5,946	0	5,946	47
Glass/Door Cond	-10	0	-10	0
Wall Cond	525	404	929	7
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	17		17	0
Sub Total ==>	6,478	1,186	7,664	61
Internal Loads				
Lights	1,349	337	1,687	13
People	1,350	0	1,350	11
Misc	1,150	0	1,150	9
Sub Total ==>	3,849	337	4,187	33
Ceiling Load	286	-286	0	0
Ventilation Load	0	0	753	6
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-341	-341	-3
Sup. Fan Heat			215	2
Ret. Fan Heat		164	164	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	10,614	1,059	12,640	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	6,511	62
Glass/Door Cond	-99	-1
Wall Cond	554	5
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	7	0
Sub Total ==>	6,972	67
Internal Loads		
Lights	1,322	13
People	750	7
Misc	1,150	11
Sub Total ==>	3,222	31
Ceiling Load	262	3
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	10,456	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,114	5.61
Glass Solar	0	0	0.00
Glass/Door Cond	-1,812	-1,812	9.12
Wall Cond	-631	-1,122	5.65
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-162	-162	0.82
Sub Total ==>	-2,605	-4,210	21.20
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-302	0	0.00
Ventilation Load	0	-4,881	24.57
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-8,606	-8,606	43.33
Exhaust Heat		213	-1.07
OA Preheat Diff.		-1,742	8.77
RA Preheat Diff.		-637	3.21
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-11,513	-19,863	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.0	67.9
Return	77.3	67.9
Ret/OA	77.8	60.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	549	549
Terminal	549	549
Main Fan	549	549
Sec Fan	0	0
Nom Vent	132	87
AHU Vent	132	87
Infil	3	3
MinStop/Rh	0	0
Return	552	552
Exhaust	135	90
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	24.0	15.9
cfm/ft²	1.22	1.22
cfm/ton	453.19	
ft²/ton	370.89	
Btu/hr·ft²	32.35	-45.83
No. People	3	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.2	14.5	13.8	549	77.8	60.9	52.9	55.0	51.5	51.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.2	14.5								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	449		
Part	4,100		
Int Door	0		
ExFlr	0		
Roof	487	0	0
Wall	443	90	20
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-20.6	549	56.4	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-20.6			

System Checksums

By PB

System - 005 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,212	1,212	16
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	33		33	0
Sub Total ==>	33	1,212	1,245	16
Internal Loads				
Lights	1,987	497	2,484	32
People	1,350	0	1,350	18
Misc	1,693	0	1,693	22
Sub Total ==>	5,030	497	5,527	72
Ceiling Load	694	-694	0	0
Ventilation Load	0	0	1,499	20
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-780	-780	-10
Sup. Fan Heat			106	1
Ret. Fan Heat		81	81	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	5,758	317	7,679	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	33	1
Sub Total ==>	33	1
Internal Loads		
Lights	1,987	39
People	750	15
Misc	1,693	33
Sub Total ==>	4,430	86
Ceiling Load	694	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	5,157	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,606	9.56
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-239	-239	1.42
Sub Total ==>	-239	-1,845	10.99
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-652	0	0.00
Ventilation Load	0	-7,094	42.24
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-4,923	-4,923	29.31
Exhaust Heat		455	-2.71
OA Preheat Diff.		-2,532	15.08
RA Preheat Diff.		-855	5.09
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-5,814	-16,794	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.3	66.9
Return	78.6	66.9
Ret/OA	80.9	44.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	271	271
Terminal	271	271
Main Fan	271	271
Sec Fan	0	0
Nom Vent	191	127
AHU Vent	191	127
Infil	4	4
MinStop/Rh	0	0
Return	275	275
Exhaust	196	131
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	70.7	46.8
cfm/ft²	0.41	0.41
cfm/ton	367.91	
ft²/ton	898.93	
Btu/hr·ft²	13.35	-25.72
No. People	3	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.7	8.8	8.1	271	80.9	63.0	57.7	55.0	51.8	52.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.7	8.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	662		
Part	5,438		
Int Door	0		
ExFlr	0		
Roof	716	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-17.0	271	33.6	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-8.1	271	33.6	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-17.0			

System Checksums

By PB

System - 006 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 14
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,190	1,190	9
Glass Solar	2,138	0	2,138	17
Glass/Door Cond	158	0	158	1
Wall Cond	572	340	911	7
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	45		45	0
Sub Total ==>	2,914	1,529	4,443	35
Internal Loads				
Lights	2,048	512	2,559	20
People	2,250	0	2,250	18
Misc	1,745	0	1,745	14
Sub Total ==>	6,043	512	6,555	51
Ceiling Load	546	-546	0	0
Ventilation Load	0	0	2,021	16
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-625	-625	-5
Sup. Fan Heat			203	2
Ret. Fan Heat		155	155	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	9,503	1,025	12,751	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,778	38
Glass/Door Cond	-87	-1
Wall Cond	701	7
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	0	0
Sub Total ==>	4,392	44
Internal Loads		
Lights	2,048	21
People	1,250	13
Misc	1,745	18
Sub Total ==>	5,043	51
Ceiling Load	452	5
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	9,886	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,652	7.30
Glass Solar	0	0	0.00
Glass/Door Cond	-2,047	-2,047	9.05
Wall Cond	-1,425	-2,337	10.34
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-246	-246	1.09
Sub Total ==>	-3,718	-6,283	27.78
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-693	0	0.00
Ventilation Load	0	-7,284	32.21
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-6,058	-6,058	26.79
Exhaust Heat		481	-2.13
OA Preheat Diff.		-2,600	11.50
RA Preheat Diff.		-871	3.85
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-10,469	-22,614	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.5	66.8
Return	77.8	66.8
Ret/OA	79.1	55.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	519	519
Terminal	519	519
Main Fan	519	519
Sec Fan	0	0
Nom Vent	196	130
AHU Vent	196	130
Infil	4	4
MinStop/Rh	0	0
Return	523	523
Exhaust	201	135
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	37.8	25.1
cfm/ft²	0.76	0.76
cfm/ton	424.76	
ft²/ton	557.92	
Btu/hr·ft²	21.51	-34.79
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.2	14.7	12.8	519	79.1	61.6	53.9	55.0	51.7	51.8
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.2	14.7								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	682		
Part	2,668		
Int Door	0		
ExFlr	0		
Roof	738	0	0
Wall	842	102	12
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-23.7	519	49.0	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-4.3	519	49.0	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-23.7			

System Checksums

By PB

System - 007 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	451	451	17
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	161	64	224	9
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	18		18	1
Sub Total ==>	179	515	694	27
Internal Loads				
Lights	566	142	708	27
People	0	0	0	0
Misc	664	0	664	25
Sub Total ==>	1,230	142	1,372	53
Ceiling Load	292	-292	0	0
Ventilation Load	0	0	794	30
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-315	-315	-12
Sup. Fan Heat			35	1
Ret. Fan Heat		27	27	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	1,701	76	2,607	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	184	11
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	12	1
Sub Total ==>	196	11
Internal Loads		
Lights	566	33
People	0	0
Misc	664	39
Sub Total ==>	1,230	72
Ceiling Load	294	17
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	1,720	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-604	10.28
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-654	-980	16.69
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-94	-94	1.59
Sub Total ==>	-747	-1,678	28.56
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-414	0	0.00
Ventilation Load	0	-2,684	45.70
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-562	-562	9.57
Exhaust Heat		279	-4.75
OA Preheat Diff.		-958	16.31
RA Preheat Diff.		-271	4.62
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-1,723	-5,874	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.6	65.0
Return	78.8	65.0
Ret/OA	81.3	41.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	90	90
Terminal	90	90
Main Fan	90	90
Sec Fan	0	0
Nom Vent	72	48
AHU Vent	72	48
Infil	2	2
MinStop/Rh	0	0
Return	92	92
Exhaust	74	50
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	80.2	53.1
cfm/ft²	0.35	0.35
cfm/ton	361.44	
ft²/ton	1,037.74	
Btu/hr·ft²	11.56	-23.78
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.3	3.0	2.7	90	81.3	63.0	56.8	55.0	51.5	51.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.3	3.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	259		
Part	1,425		
Int Door	0		
ExFlr	0		
Roof	281	0	0
Wall	314	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-6.2	90	28.8	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.3	90	28.8	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-6.2			

System Checksums

By PB

System - 008 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	747	747	16
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	75	30	105	2
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	27		27	1
Sub Total ==>	102	777	878	19
Internal Loads				
Lights	1,085	271	1,356	29
People	450	0	450	10
Misc	1,135	0	1,135	24
Sub Total ==>	2,670	271	2,941	63
Ceiling Load	458	-458	0	0
Ventilation Load	0	0	1,275	27
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-546	-546	-12
Sup. Fan Heat			62	1
Ret. Fan Heat		48	48	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	3,230	92	4,660	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	87	3
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	20	1
Sub Total ==>	107	4
Internal Loads		
Lights	1,085	36
People	250	8
Misc	1,135	37
Sub Total ==>	2,470	81
Ceiling Load	463	15
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	3,040	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,061	9.63
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-328	-496	4.51
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-160	-160	1.45
Sub Total ==>	-488	-1,717	15.59
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-537	0	0.00
Ventilation Load	0	-5,046	45.80
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-2,277	-2,277	20.67
Exhaust Heat		396	-3.60
OA Preheat Diff.		-1,801	16.35
RA Preheat Diff.		-572	5.19
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,302	-11,016	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.3	66.2
Return	78.5	66.2
Ret/OA	81.4	40.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	160	160
Terminal	160	160
Main Fan	160	160
Sec Fan	0	0
Nom Vent	136	90
AHU Vent	136	90
Infil	3	3
MinStop/Rh	0	0
Return	162	162
Exhaust	139	93
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	85.3	56.5
cfm/ft²	0.36	0.36
cfm/ton	357.41	
ft²/ton	993.30	
Btu/hr·ft²	12.08	-25.41
No. People	1	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.5	5.4	4.9	160	81.4	63.1	57.4	55.0	51.6	51.4
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.5	5.4								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	444		
Part	4,386		
Int Door	0		
ExFlr	0		
Roof	480	0	0
Wall	157	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-11.3	160	26.6	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-6.3	160	26.6	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-11.3			

System Checksums

By PB

System - 009 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	190	190	17
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	7		7	1
Sub Total ==>	7	190	196	18
Internal Loads				
Lights	379	95	474	43
People	0	0	0	0
Misc	237	0	237	22
Sub Total ==>	616	95	710	65
Ceiling Load	114	-114	0	0
Ventilation Load	0	0	287	26
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-123	-123	-11
Sup. Fan Heat			15	1
Ret. Fan Heat		12	12	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	736	59	1,098	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	4	1
Sub Total ==>	4	1
Internal Loads		
Lights	379	52
People	0	0
Misc	237	32
Sub Total ==>	616	84
Ceiling Load	116	16
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	735	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-225	9.69
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-33	-33	1.44
Sub Total ==>	-33	-258	11.13
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-90	0	0.00
Ventilation Load	0	-958	41.30
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-706	-706	30.46
Exhaust Heat		61	-2.62
OA Preheat Diff.		-342	14.74
RA Preheat Diff.		-116	4.99
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-830	-2,319	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.9	66.9
Return	79.2	66.9
Ret/OA	81.0	46.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	39	39
Terminal	39	39
Main Fan	39	39
Sec Fan	0	0
Nom Vent	26	17
AHU Vent	26	17
Infil	1	1
MinStop/Rh	0	0
Return	39	39
Exhaust	26	18
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	66.9	44.3
cfm/ft²	0.42	0.42
cfm/ton	366.82	
ft²/ton	878.90	
Btu/hr·ft²	13.65	-25.40
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	1.3	1.2	39	81.0	62.7	56.1	55.0	51.4	50.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	1.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	93		
Part	1,248		
Int Door	0		
ExFlr	0		
Roof	100	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-2.4	39	35.4	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.1	39	35.4	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.4			

System Checksums

By PB

System - 010 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,329	1,329	17
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	45		45	1
Sub Total ==>	45	1,329	1,374	18
Internal Loads				
Lights	1,704	426	2,130	27
People	0	0	0	0
Misc	2,117	0	2,117	27
Sub Total ==>	3,821	426	4,247	55
Ceiling Load	1,234	-1,234	0	0
Ventilation Load	0	0	2,160	28
Adj Air Trans Heat	237		237	3
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-409	-409	-5
Sup. Fan Heat			110	1
Ret. Fan Heat		29	29	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	5,336	142	7,748	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	37	1
Sub Total ==>	37	1
Internal Loads		
Lights	1,704	32
People	0	0
Misc	2,117	40
Sub Total ==>	3,821	72
Ceiling Load	1,246	23
Ventilation Load	0	0
Adj Air Trans Heat	237	4
Ov/Undr Sizing	0	0
Grand Total ==>	5,341	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,947	9.64
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-299	-299	1.48
Sub Total ==>	-299	-2,246	11.12
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,189	0	0.00
Ventilation Load	0	-9,490	46.97
Adj Air Trans Heat	-486	-486	2
Ov/Undr Sizing	-3,785	-3,785	18.73
Exhaust Heat		198	-0.98
OA Preheat Diff.		-3,387	16.76
RA Preheat Diff.		-1,007	4.98
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-5,759	-20,203	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	79.7	65.5
Return	80.0	65.5
Ret/OA	81.7	37.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	280	280
Terminal	280	280
Main Fan	280	280
Sec Fan	0	0
Nom Vent	256	170
AHU Vent	256	170
Infil	5	5
MinStop/Rh	0	0
Return	98	150
Exhaust	74	47
Rm Exh	152	103
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	91.3	60.5
cfm/ft²	0.34	0.34
cfm/ton	377.66	
ft²/ton	1,113.89	
Btu/hr·ft²	10.77	-25.02
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.7	8.9	8.7	280	81.7	63.3	57.6	55.0	52.4	54.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.7	8.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	827		
Part	8,863		
Int Door	0		
ExFlr	0		
Roof	896	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-20.7	280	23.8	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-12.2	280	23.8	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-20.7			

System Checksums

By PB

System - 011 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	940	940	14
Glass Solar	148	0	148	2
Glass/Door Cond	173	0	173	3
Wall Cond	282	130	412	6
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	37		37	1
Sub Total ==>	641	1,069	1,710	25
Internal Loads				
Lights	2,100	525	2,625	39
People	0	0	0	0
Misc	1,313	0	1,313	19
Sub Total ==>	3,413	525	3,938	58
Ceiling Load	589	-589	0	0
Ventilation Load	0	0	1,608	24
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-636	-636	-9
Sup. Fan Heat			96	1
Ret. Fan Heat		74	74	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	4,643	443	6,790	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	145	3
Glass/Door Cond	185	4
Wall Cond	316	7
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	23	0
Sub Total ==>	669	14
Internal Loads		
Lights	2,100	45
People	0	0
Misc	1,313	28
Sub Total ==>	3,413	73
Ceiling Load	588	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	4,669	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,202	9.20
Glass Solar	0	0	0.00
Glass/Door Cond	-1,606	-1,606	12.29
Wall Cond	-1,066	-1,685	12.89
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-185	-185	1.42
Sub Total ==>	-2,857	-4,677	35.80
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-673	0	0.00
Ventilation Load	0	-5,309	40.63
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-1,054	-1,054	8.06
Exhaust Heat		453	-3.47
OA Preheat Diff.		-1,895	14.50
RA Preheat Diff.		-584	4.47
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-4,583	-13,065	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.6	65.9
Return	78.9	65.9
Ret/OA	80.6	48.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	245	245
Terminal	245	245
Main Fan	245	245
Sec Fan	0	0
Nom Vent	143	95
AHU Vent	143	95
Infil	3	3
MinStop/Rh	0	0
Return	248	248
Exhaust	146	98
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	58.4	38.7
cfm/ft²	0.48	0.48
cfm/ton	376.76	
ft²/ton	788.05	
Btu/hr·ft²	15.23	-27.20
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.7	7.8	7.2	245	80.6	62.5	55.6	55.0	51.4	50.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.7	7.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	513		
Part	2,355		
Int Door	0		
ExFlr	0		
Roof	548	0	0
Wall	537	0	0
Ext Door	45	45	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-14.0	245	39.0	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-5.5	245	39.0	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-14.0			

System Checksums

By PB

System - 012 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	218	218	10
Glass Solar	77	0	77	4
Glass/Door Cond	66	0	66	3
Wall Cond	90	44	134	6
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	8		8	0
Sub Total ==>	241	262	503	24
Internal Loads				
Lights	454	114	568	27
People	0	0	0	0
Misc	284	0	284	13
Sub Total ==>	738	114	852	40
Ceiling Load	106	-106	0	0
Ventilation Load	0	0	359	17
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	463		463	22
Exhaust Heat		-116	-116	-5
Sup. Fan Heat			31	1
Ret. Fan Heat		24	24	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	1,548	177	2,116	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	77	5
Glass/Door Cond	79	5
Wall Cond	104	7
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	5	0
Sub Total ==>	265	17
Internal Loads		
Lights	454	29
People	0	0
Misc	284	18
Sub Total ==>	738	47
Ceiling Load	108	7
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	463	29
Grand Total ==>	1,575	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-249	7.39
Glass Solar	0	0	0.00
Glass/Door Cond	-845	-845	25.12
Wall Cond	-395	-636	18.92
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-40	-40	1.19
Sub Total ==>	-1,280	-1,770	52.62
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-138	0	0.00
Ventilation Load	0	-1,148	34.14
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		93	-2.77
OA Preheat Diff.		-410	12.18
RA Preheat Diff.		-129	3.83
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-1,418	-3,363	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.0	66.1
Return	78.3	66.1
Ret/OA	79.7	54.1
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	80	80
Terminal	80	80
Main Fan	80	80
Sec Fan	0	0
Nom Vent	31	21
AHU Vent	31	21
Infil	1	1
MinStop/Rh	0	0
Return	80	80
Exhaust	32	21
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	38.9	25.8
cfm/ft²	0.72	0.72
cfm/ton	403.62	
ft²/ton	563.09	
Btu/hr·ft²	21.31	-33.52
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.2	2.4	2.2	80	79.7	61.9	54.3	55.0	51.5	51.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.2	2.4								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	111		
Part	964		
Int Door	0		
ExFlr	0		
Roof	113	0	0
Wall	203	0	0
Ext Door	24	24	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-3.7	80	48.1	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.8	80	48.1	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.7			

System Checksums

By PB

System - 013 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	218	218	19
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	7		7	1
Sub Total ==>	7	218	224	20
Internal Loads				
Lights	389	97	487	43
People	0	0	0	0
Misc	243	0	243	21
Sub Total ==>	633	97	730	64
Ceiling Load	126	-126	0	0
Ventilation Load	0	0	289	25
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-134	-134	-12
Sup. Fan Heat			16	1
Ret. Fan Heat		12	12	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	765	67	1,136	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	5	1
Sub Total ==>	5	1
Internal Loads		
Lights	389	51
People	0	0
Misc	243	32
Sub Total ==>	633	83
Ceiling Load	126	16
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	763	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-231	9.66
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-34	-34	1.43
Sub Total ==>	-34	-265	11.09
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-92	0	0.00
Ventilation Load	0	-984	41.13
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-735	-735	30.72
Exhaust Heat		62	-2.60
OA Preheat Diff.		-351	14.68
RA Preheat Diff.		-119	4.98
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-861	-2,392	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	79.2	66.9
Return	79.4	66.9
Ret/OA	81.1	46.3
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	40	40
Terminal	40	40
Main Fan	40	40
Sec Fan	0	0
Nom Vent	27	18
AHU Vent	27	18
Infil	1	1
MinStop/Rh	0	0
Return	41	41
Exhaust	27	18
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	66.2	43.9
cfm/ft²	0.42	0.42
cfm/ton	367.92	
ft²/ton	872.89	
Btu/hr·ft²	13.75	-25.50
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	1.3	1.2	40	81.1	62.8	56.2	55.0	51.5	51.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	1.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	95		
Part	1,239		
Int Door	0		
ExFlr	0		
Roof	103	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-2.4	40	35.7	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.1	40	35.7	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.4			

System Checksums

By PB

System - 014 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	2,240	2,240	7
Glass Solar	556	0	556	2
Glass/Door Cond	75	0	75	0
Wall Cond	76	57	133	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-8		-8	0
Sub Total ==>	699	2,297	2,996	9
Internal Loads				
Lights	4,229	1,057	5,287	16
People	22,500	0	22,500	68
Misc	2,832	0	2,832	9
Sub Total ==>	29,561	1,057	30,619	92
Ceiling Load	739	-739	0	0
Ventilation Load	0	0	-360	-1
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-836	-836	-3
Sup. Fan Heat			433	1
Ret. Fan Heat		330	330	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	30,999	2,109	33,180	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	556	3
Glass/Door Cond	75	0
Wall Cond	76	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	55	0
Sub Total ==>	762	4
Internal Loads		
Lights	4,229	20
People	12,500	59
Misc	2,832	13
Sub Total ==>	19,561	93
Ceiling Load	739	4
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	21,062	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,745	6.37
Glass Solar	0	0	0.00
Glass/Door Cond	-683	-683	1.59
Wall Cond	-207	-377	0.88
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-399	-399	0.93
Sub Total ==>	-1,290	-4,205	9.76
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-642	0	0.00
Ventilation Load	0	-11,454	26.59
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-22,239	-22,239	51.62
Exhaust Heat		433	-1.00
OA Preheat Diff.		-4,088	9.49
RA Preheat Diff.		-1,529	3.55
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-24,171	-43,082	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.1	68.2
Return	77.4	68.2
Ret/OA	78.6	59.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	1,106	1,106
Terminal	1,106	1,106
Main Fan	1,106	1,106
Sec Fan	0	0
Nom Vent	309	205
AHU Vent	309	205
Infil	7	7
MinStop/Rh	0	0
Return	1,113	1,113
Exhaust	316	212
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	27.9	18.5
cfm/ft²	1.00	1.00
cfm/ton	347.77	
ft²/ton	347.94	
Btu/hr·ft²	34.49	-39.38
No. People	50	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	3.2	38.2	29.9	1,106	78.6	64.2	66.8	55.0	52.6	55.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	3.2	38.2								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,106		
Part	4,143		
Int Door	0		
ExFlr	0		
Roof	1,192	0	0
Wall	152	34	22
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-43.6	1,106	54.7	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.5	1,106	54.7	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-43.6			

System Checksums

By PB

System - 015 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,788	1,788	15
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	37		37	0
Sub Total ==>	37	1,788	1,825	16
Internal Loads				
Lights	2,748	687	3,436	30
People	3,150	0	3,150	27
Misc	2,342	0	2,342	20
Sub Total ==>	8,241	687	8,928	77
Ceiling Load	950	-950	0	0
Ventilation Load	0	0	1,598	14
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-1,032	-1,032	-9
Sup. Fan Heat			161	1
Ret. Fan Heat		124	124	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	9,228	616	11,603	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	45	1
Sub Total ==>	45	1
Internal Loads		
Lights	2,748	35
People	1,750	22
Misc	2,342	30
Sub Total ==>	6,841	87
Ceiling Load	950	12
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	7,837	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,229	9.41
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-330	-330	1.39
Sub Total ==>	-330	-2,560	10.81
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-856	0	0.00
Ventilation Load	0	-9,474	40.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-7,690	-7,690	32.47
Exhaust Heat		577	-2.43
OA Preheat Diff.		-3,381	14.27
RA Preheat Diff.		-1,157	4.89
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-8,876	-23,685	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.3	67.1
Return	78.5	67.1
Ret/OA	80.6	47.6
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	411	411
Terminal	411	411
Main Fan	411	411
Sec Fan	0	0
Nom Vent	255	169
AHU Vent	255	169
Infil	6	6
MinStop/Rh	0	0
Return	417	417
Exhaust	261	175
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	62.1	41.1
cfm/ft²	0.45	0.45
cfm/ton	370.01	
ft²/ton	822.95	
Btu/hr·ft²	14.58	-26.21
No. People	7	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.1	13.3	12.2	411	80.6	63.1	58.5	55.0	52.0	52.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	13.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	915		
Part	4,279		
Int Door	0		
ExFlr	0		
Roof	991	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-24.0	411	37.7	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-9.9	411	37.7	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-24.0			

System Checksums

By PB

System - 016 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	2,473	2,473	21
Glass Solar	294	0	294	2
Glass/Door Cond	335	0	335	3
Wall Cond	751	368	1,120	9
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	54		54	0
Sub Total ==>	1,435	2,841	4,277	36
Internal Loads				
Lights	1,623	406	2,029	17
People	0	0	0	0
Misc	1,902	0	1,902	16
Sub Total ==>	3,525	406	3,930	33
Ceiling Load	1,075	-1,075	0	0
Ventilation Load	0	0	2,840	24
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	1,880		1,880	16
Exhaust Heat		-1,387	-1,387	-12
Sup. Fan Heat			163	1
Ret. Fan Heat		125	125	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	7,915	909	11,827	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	285	3
Glass/Door Cond	293	4
Wall Cond	1,118	14
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	20	0
Sub Total ==>	1,715	21
Internal Loads		
Lights	1,623	20
People	0	0
Misc	1,902	23
Sub Total ==>	3,525	43
Ceiling Load	1,045	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	1,880	23
Grand Total ==>	8,165	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-3,520	15.40
Glass Solar	0	0	0.00
Glass/Door Cond	-3,211	-3,211	14.04
Wall Cond	-1,827	-2,855	12.49
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-268	-268	1.17
Sub Total ==>	-5,307	-9,853	43.10
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,520	0	0.00
Ventilation Load	0	-9,359	40.94
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-737	-737	3.22
Exhaust Heat		1,238	-5.42
OA Preheat Diff.		-3,340	14.61
RA Preheat Diff.		-811	3.55
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-7,563	-22,863	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	79.6	63.5
Return	79.8	63.5
Ret/OA	81.1	46.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	416	416
Terminal	416	416
Main Fan	416	416
Sec Fan	0	0
Nom Vent	252	167
AHU Vent	252	167
Infil	5	5
MinStop/Rh	0	0
Return	421	421
Exhaust	257	172
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	60.7	40.2
cfm/ft²	0.56	0.56
cfm/ton	374.63	
ft²/ton	669.38	
Btu/hr·ft²	17.93	-33.07
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.1	13.3	12.2	416	80.9	62.4	54.9	55.0	51.2	50.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	13.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	743		
Part	4,948		
Int Door	0		
ExFlr	0		
Roof	1,690	0	0
Wall	927	0	0
Ext Door	91	91	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-24.6	416	37.0	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-10.4	416	37.0	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-24.6			

System Checksums

By PB

System - 017 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 18
Outside Air: OADB/WB/HR: 78 / 60 / 50

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	957	957	7
Glass Solar	6,590	0	6,590	46
Glass/Door Cond	141	0	141	1
Wall Cond	873	607	1,479	10
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	17		17	0
Sub Total ==>	7,622	1,564	9,186	65
Internal Loads				
Lights	1,422	355	1,777	13
People	1,350	0	1,350	9
Misc	1,300	0	1,300	9
Sub Total ==>	4,072	355	4,427	31
Ceiling Load	348	-348	0	0
Ventilation Load	0	0	731	5
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-568	-568	-4
Sup. Fan Heat			248	2
Ret. Fan Heat		189	189	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	12,042	1,191	14,213	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	7,051	58
Glass/Door Cond	84	1
Wall Cond	1,134	9
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-1	0
Sub Total ==>	8,268	69
Internal Loads		
Lights	1,422	12
People	750	6
Misc	1,300	11
Sub Total ==>	3,472	29
Ceiling Load	326	3
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	12,066	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,255	4.87
Glass Solar	0	0	0.00
Glass/Door Cond	-1,799	-1,799	6.98
Wall Cond	-1,096	-1,831	7.11
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-183	-183	0.71
Sub Total ==>	-3,078	-5,068	19.67
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-368	0	0.00
Ventilation Load	0	-7,563	29.35
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-9,817	-9,817	38.09
Exhaust Heat		353	-1.37
OA Preheat Diff.		-2,699	10.47
RA Preheat Diff.		-975	3.78
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-13,262	-25,770	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.2	67.7
Return	77.5	67.7
Ret/OA	77.5	57.5
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	634	634
Terminal	634	634
Main Fan	634	634
Sec Fan	0	0
Nom Vent	204	135
AHU Vent	204	135
Infil	3	3
MinStop/Rh	0	0
Return	637	637
Exhaust	207	138
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	32.2	21.3
cfm/ft²	1.25	1.25
cfm/ton	465.12	
ft²/ton	372.93	
Btu/hr·ft²	32.18	-52.43
No. People	3	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.4	16.3	15.6	634	77.6	60.2	50.2	55.0	51.0	49.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.4	16.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	508		
Part	4,591		
Int Door	0		
ExFlr	0		
Roof	550	0	0
Wall	665	90	13
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-26.6	634	52.3	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.4	634	52.3	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-26.6			

System Checksums

By PB

System - 018 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 8 / 16
Outside Air: OADB/WB/HR: 80 / 62 / 55

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,011	1,011	7
Glass Solar	5,684	0	5,684	40
Glass/Door Cond	90	0	90	1
Wall Cond	572	395	967	7
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	32		32	0
Sub Total ==>	6,378	1,406	7,784	55
Internal Loads				
Lights	1,527	382	1,908	14
People	1,350	0	1,350	10
Misc	1,301	0	1,301	9
Sub Total ==>	4,178	382	4,559	32
Ceiling Load	340	-340	0	0
Ventilation Load	0	0	1,805	13
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-520	-520	-4
Sup. Fan Heat			237	2
Ret. Fan Heat		180	180	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	10,895	1,109	14,046	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	7,352	64
Glass/Door Cond	-259	-2
Wall Cond	593	5
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-10	0
Sub Total ==>	7,676	67
Internal Loads		
Lights	1,527	13
People	750	7
Misc	1,301	11
Sub Total ==>	3,578	31
Ceiling Load	273	2
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Dehumid. Ov Sizing		
Ov/Undr Sizing	0	0
Exhaust Heat		
Sup. Fan Heat		
Ret. Fan Heat		
Duct Heat Pkup		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	11,526	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,246	5.00
Glass Solar	0	0	0.00
Glass/Door Cond	-1,856	-1,856	7.46
Wall Cond	-911	-1,554	6.24
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-183	-183	0.74
Sub Total ==>	-2,951	-4,840	19.44
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-362	0	0.00
Ventilation Load	0	-7,433	29.86
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-9,350	-9,350	37.56
Exhaust Heat		341	-1.37
OA Preheat Diff.		-2,653	10.66
RA Preheat Diff.		-961	3.86
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-12,664	-24,895	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.1	67.8
Return	77.3	67.8
Ret/OA	78.0	57.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	605	605
Terminal	605	605
Main Fan	605	605
Sec Fan	0	0
Nom Vent	200	133
AHU Vent	200	133
Infil	3	3
MinStop/Rh	0	0
Return	608	608
Exhaust	204	136
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	33.1	21.9
cfm/ft²	1.19	1.19
cfm/ton	449.59	
ft²/ton	377.59	
Btu/hr·ft²	31.78	-50.61
No. People	3	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.4	16.2	14.7	605	78.2	61.0	52.7	55.0	51.6	51.4
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.4	16.2								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	508		
Part	3,854		
Int Door	0		
ExFlr	0		
Roof	546	0	0
Wall	581	92	16
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-25.7	605	51.9	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.6	605	51.9	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-25.7			

System Checksums

By PB

System - 019 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 9 / 15
Outside Air: OADB/WB/HR: 75 / 59 / 49

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	671	671	3
Glass Solar	12,564	0	12,564	63
Glass/Door Cond	-141	0	-141	-1
Wall Cond	736	567	1,302	7
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-12		-12	0
Sub Total ==>	13,147	1,237	14,384	72
Internal Loads				
Lights	1,639	410	2,049	10
People	2,250	0	2,250	11
Misc	1,397	0	1,397	7
Sub Total ==>	5,286	410	5,695	29
Ceiling Load	224	-224	0	0
Ventilation Load	0	0	-519	-3
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-270	-270	-1
Sup. Fan Heat			379	2
Ret. Fan Heat		288	288	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	18,657	1,440	19,957	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	13,901	75
Glass/Door Cond	-672	-4
Wall Cond	790	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-40	0
Sub Total ==>	13,979	76
Internal Loads		
Lights	1,639	9
People	1,250	7
Misc	1,397	8
Sub Total ==>	4,286	23
Ceiling Load	195	1
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	18,459	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,175	3.85
Glass Solar	0	0	0.00
Glass/Door Cond	-2,774	-2,774	9.10
Wall Cond	-1,030	-1,826	5.99
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-197	-197	0.65
Sub Total ==>	-4,001	-5,971	19.58
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-271	0	0.00
Ventilation Load	0	-5,649	18.53
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-16,268	-16,268	53.35
Exhaust Heat		183	-0.60
OA Preheat Diff.		-2,016	6.61
RA Preheat Diff.		-769	2.52
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-20,539	-30,491	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	76.3	68.4
Return	76.6	68.4
Ret/OA	76.4	63.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	969	969
Terminal	969	969
Main Fan	969	969
Sec Fan	0	0
Nom Vent	152	101
AHU Vent	152	101
Infil	4	4
MinStop/Rh	0	0
Return	973	973
Exhaust	156	104
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	15.7	10.4
cfm/ft²	1.78	1.78
cfm/ton	506.75	
ft²/ton	285.30	
Btu/hr·ft²	42.06	-57.84
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.9	23.0	22.4	969	76.3	60.3	52.7	55.0	51.9	52.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.9	23.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	546		
Part	3,942		
Int Door	0		
ExFlr	0		
Roof	507	0	0
Wall	709	138	19
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-31.6	969	60.8	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-31.6			

System Checksums

By PB

System - 020 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	2,999	2,999	17
Glass Solar	3,560	0	3,560	20
Glass/Door Cond	98	0	98	1
Wall Cond	801	471	1,272	7
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	62		62	0
Sub Total ==>	4,521	3,471	7,991	44
Internal Loads				
Lights	2,758	690	3,448	19
People	1,800	0	1,800	10
Misc	2,793	0	2,793	15
Sub Total ==>	7,352	690	8,041	44
Ceiling Load	1,244	-1,244	0	0
Ventilation Load	0	0	3,869	21
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-2,199	-2,199	-12
Sup. Fan Heat			266	1
Ret. Fan Heat		204	204	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	13,117	921	18,174	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	4,123	32
Glass/Door Cond	72	1
Wall Cond	976	8
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	31	0
Sub Total ==>	5,202	40
Internal Loads		
Lights	2,758	21
People	1,000	8
Misc	2,793	22
Sub Total ==>	6,552	51
Ceiling Load	1,212	9
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	12,966	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-3,086	7.19
Glass Solar	0	0	0.00
Glass/Door Cond	-927	-927	2.16
Wall Cond	-947	-1,516	3.53
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-394	-394	0.92
Sub Total ==>	-2,268	-5,923	13.79
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,136	0	0.00
Ventilation Load	0	-18,530	43.14
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-10,923	-10,923	25.43
Exhaust Heat		1,239	-2.88
OA Preheat Diff.		-6,613	15.40
RA Preheat Diff.		-2,201	5.12
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-14,326	-42,951	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.6	66.7
Return	78.9	66.7
Ret/OA	80.6	43.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	681	681
Terminal	681	681
Main Fan	681	681
Sec Fan	0	0
Nom Vent	500	331
AHU Vent	500	331
Infil	7	7
MinStop/Rh	0	0
Return	688	688
Exhaust	507	338
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	73.4	48.6
cfm/ft²	0.62	0.62
cfm/ton	390.88	
ft²/ton	626.53	
Btu/hr·ft²	19.15	-40.14
No. People	4	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.7	20.9	18.8	681	79.8	61.8	53.8	55.0	51.0	49.4
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.7	20.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,091		
Part	7,565		
Int Door	0		
ExFlr	0		
Roof	1,382	0	0
Wall	526	46	9
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-43.8	681	32.3	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-21.6	681	32.3	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-43.8			

System Checksums

By PB

System - 021 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	3,097	3,097	14
Glass Solar	3,658	0	3,658	16
Glass/Door Cond	62	0	62	0
Wall Cond	196	163	358	2
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	100		100	0
Sub Total ==>	4,015	3,259	7,275	32
Internal Loads				
Lights	3,470	868	4,338	19
People	2,700	0	2,700	12
Misc	3,527	0	3,527	16
Sub Total ==>	9,697	868	10,565	47
Ceiling Load	1,373	-1,373	0	0
Ventilation Load	0	0	6,409	28
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-2,245	-2,245	-10
Sup. Fan Heat			304	1
Ret. Fan Heat		233	233	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	15,085	742	22,541	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	5,008	34
Glass/Door Cond	-225	-2
Wall Cond	220	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	36	0
Sub Total ==>	5,038	34
Internal Loads		
Lights	3,470	23
People	1,500	10
Misc	3,527	24
Sub Total ==>	8,497	57
Ceiling Load	1,279	9
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	14,815	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-3,393	6.58
Glass Solar	0	0	0.00
Glass/Door Cond	-1,000	-1,000	1.94
Wall Cond	-265	-488	0.95
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-497	-497	0.96
Sub Total ==>	-1,762	-5,378	10.43
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,202	0	0.00
Ventilation Load	0	-22,837	44.29
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-13,636	-13,636	26.45
Exhaust Heat		1,280	-2.48
OA Preheat Diff.		-8,150	15.81
RA Preheat Diff.		-2,836	5.50
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-16,600	-51,557	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.1	67.3
Return	78.2	67.3
Ret/OA	81.1	42.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	778	778
Terminal	778	778
Main Fan	778	778
Sec Fan	0	0
Nom Vent	616	408
AHU Vent	616	408
Infil	9	9
MinStop/Rh	0	0
Return	787	787
Exhaust	625	417
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	79.2	52.5
cfm/ft²	0.56	0.56
cfm/ton	360.07	
ft²/ton	637.83	
Btu/hr·ft²	18.81	-37.96
No. People	6	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	2.2	25.9	21.9	778	80.5	62.5	55.9	55.0	50.9	48.8
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.2	25.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,378		
Part	12,071		
Int Door	0		
ExFlr	0		
Roof	1,502	0	0
Wall	204	50	24
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-52.3	778	29.7	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-27.4	778	29.7	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-52.3			

System Checksums

By PB

System - 022 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,388	1,388	7
Glass Solar	1,924	0	1,924	10
Glass/Door Cond	72	0	72	0
Wall Cond	444	279	723	4
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	6		6	0
Sub Total ==>	2,445	1,667	4,112	21
Internal Loads				
Lights	1,477	369	1,847	10
People	10,800	0	10,800	56
Misc	1,361	0	1,361	7
Sub Total ==>	13,638	369	14,008	73
Ceiling Load	408	-408	0	0
Ventilation Load	0	0	346	2
Adj Air Trans Heat	508		508	3
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-290	-290	-2
Sup. Fan Heat			274	1
Ret. Fan Heat		179	179	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	17,000	1,516	19,136	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,453	26
Glass/Door Cond	-156	-1
Wall Cond	441	3
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-22	0
Sub Total ==>	3,716	28
Internal Loads		
Lights	1,477	11
People	6,000	45
Misc	1,361	10
Sub Total ==>	8,838	66
Ceiling Load	287	2
Ventilation Load	0	0
Adj Air Trans Heat	508	4
Ov/Undr Sizing	0	0
Grand Total ==>	13,350	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,324	4.92
Glass Solar	0	0	0.00
Glass/Door Cond	-655	-655	2.43
Wall Cond	-526	-864	3.21
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-192	-192	0.71
Sub Total ==>	-1,373	-3,035	11.27
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-319	0	0.00
Ventilation Load	0	-7,239	26.87
Adj Air Trans Heat	-1,024	-1,024	4
Ov/Undr Sizing	-12,231	-12,231	45.40
Exhaust Heat		136	-0.50
OA Preheat Diff.		-2,583	9.59
RA Preheat Diff.		-962	3.57
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-14,947	-26,938	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.4	68.1
Return	77.7	68.1
Ret/OA	78.9	59.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	701	701
Terminal	701	701
Main Fan	701	701
Sec Fan	0	0
Nom Vent	195	129
AHU Vent	195	129
Infil	3	3
MinStop/Rh	0	0
Return	603	636
Exhaust	97	64
Rm Exh	102	69
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	27.8	18.5
cfm/ft²	1.32	1.32
cfm/ton	382.20	
ft²/ton	289.92	
Btu/hr·ft²	41.39	-51.94
No. People	24	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.8	22.0	17.8	701	78.9	63.6	63.8	55.0	53.0	57.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.8	22.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	532		
Part	3,579		
Int Door	0		
ExFlr	0		
Roof	576	0	0
Wall	303	33	11
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-27.6	701	54.7	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.3	701	54.7	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-27.6			

System Checksums

By PB

System - 023 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	2,472	2,472	15
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	53		53	0
Sub Total ==>	53	2,472	2,524	15
Internal Loads				
Lights	3,311	828	4,138	25
People	4,950	0	4,950	30
Misc	3,401	0	3,401	20
Sub Total ==>	11,661	828	12,489	75
Ceiling Load	1,305	-1,305	0	0
Ventilation Load	0	0	3,157	19
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-1,960	-1,960	-12
Sup. Fan Heat			222	1
Ret. Fan Heat		171	171	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	13,018	205	16,603	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	60	1
Sub Total ==>	60	1
Internal Loads		
Lights	3,311	31
People	2,750	25
Misc	3,401	31
Sub Total ==>	9,461	87
Ceiling Load	1,313	12
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	10,834	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,980	7.23
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-480	-480	1.16
Sub Total ==>	-480	-3,460	8.40
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,178	0	0.00
Ventilation Load	0	-19,064	46.27
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-10,609	-10,609	25.75
Exhaust Heat		1,090	-2.65
OA Preheat Diff.		-6,804	16.51
RA Preheat Diff.		-2,358	5.72
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-12,267	-41,205	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	78.1	67.2
Return	78.4	67.2
Ret/OA	81.6	38.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	569	569
Terminal	569	569
Main Fan	569	569
Sec Fan	0	0
Nom Vent	514	341
AHU Vent	514	341
Infil	9	9
MinStop/Rh	0	0
Return	577	577
Exhaust	523	349
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	90.4	59.9
cfm/ft²	0.43	0.43
cfm/ton	357.50	
ft²/ton	834.96	
Btu/hr·ft²	14.37	-31.33
No. People	11	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	1.6	19.1	17.5	569	81.6	63.3	58.0	55.0	51.8	52.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.6	19.1								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,329		
Part	15,886		
Int Door	0		
ExFlr	0		
Roof	1,321	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-41.6	569	24.4	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-24.3	569	24.4	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-41.6			

System Checksums

By PB

System - 024 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	746	746	15
Glass Solar	226	0	226	4
Glass/Door Cond	62	0	62	1
Wall Cond	24	21	45	1
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	7		7	0
Sub Total ==>	319	766	1,085	21
Internal Loads				
Lights	410	103	513	10
People	1,800	0	1,800	35
Misc	770	0	770	15
Sub Total ==>	2,980	103	3,083	60
Ceiling Load	272	-272	0	0
Ventilation Load	0	0	302	6
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	809		809	16
Exhaust Heat		-298	-298	-6
Sup. Fan Heat			72	1
Ret. Fan Heat		55	55	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	4,379	354	5,107	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	225	6
Glass/Door Cond	68	2
Wall Cond	26	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	14	0
Sub Total ==>	333	9
Internal Loads		
Lights	410	11
People	1,000	28
Misc	770	21
Sub Total ==>	2,180	61
Ceiling Load	269	7
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	809	23
Grand Total ==>	3,590	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-735	8.42
Glass Solar	0	0	0.00
Glass/Door Cond	-954	-954	10.93
Wall Cond	-104	-212	2.42
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-109	-109	1.24
Sub Total ==>	-1,166	-2,009	23.02
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-266	0	0.00
Ventilation Load	0	-3,113	35.67
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-2,289	-2,289	26.23
Exhaust Heat		179	-2.06
OA Preheat Diff.		-1,111	12.73
RA Preheat Diff.		-385	4.41
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,721	-8,727	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	77.9	67.2
Return	78.1	67.2
Ret/OA	79.8	52.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	183	183
Terminal	183	183
Main Fan	183	183
Sec Fan	0	0
Nom Vent	84	56
AHU Vent	84	56
Infil	2	2
MinStop/Rh	0	0
Return	185	185
Exhaust	86	58
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	45.9	30.4
cfm/ft²	0.61	0.61
cfm/ton	381.76	
ft²/ton	627.31	
Btu/hr·ft²	19.13	-30.22
No. People	4	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.5	5.8	5.2	183	79.8	62.6	57.4	55.0	51.7	51.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.5	5.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	301		
Part	2,745		
Int Door	0		
ExFlr	0		
Roof	326	0	0
Wall	78	11	14
Ext Door	21	21	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-9.1	183	45.5	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.4	183	45.5	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.1			

System Checksums

By PB

System - 025 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 19
Outside Air: OADB/WB/HR: 75 / 58 / 46

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	56	56	3
Glass Solar	1,602	0	1,602	78
Glass/Door Cond	43	0	43	2
Wall Cond	80	94	173	8
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-1		-1	0
Sub Total ==>	1,724	150	1,873	92
Internal Loads				
Lights	52	13	65	3
People	0	0	0	0
Misc	98	0	98	5
Sub Total ==>	150	13	163	8
Ceiling Load	16	-16	0	0
Ventilation Load	0	0	-42	-2
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-19	-19	-1
Sup. Fan Heat			39	2
Ret. Fan Heat		29	29	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	1,889	157	2,043	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	1,602	85
Glass/Door Cond	43	2
Wall Cond	80	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	0	0
Sub Total ==>	1,724	91
Internal Loads		
Lights	52	3
People	0	0
Misc	98	5
Sub Total ==>	150	8
Ceiling Load	16	1
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	1,890	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-96	3.54
Glass Solar	0	0	0.00
Glass/Door Cond	-954	-954	35.35
Wall Cond	-87	-188	6.97
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-14	-14	0.51
Sub Total ==>	-1,054	-1,251	46.37
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-19	0	0.00
Ventilation Load	0	-395	14.63
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-871	-871	32.27
Exhaust Heat		13	-0.48
OA Preheat Diff.		-141	5.22
RA Preheat Diff.		-54	1.99
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-1,944	-2,698	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	76.3	68.4
Return	76.6	68.4
Ret/OA	76.4	64.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	99	99
Terminal	99	99
Main Fan	99	99
Sec Fan	0	0
Nom Vent	11	7
AHU Vent	11	7
Infil	0	0
MinStop/Rh	0	0
Return	99	99
Exhaust	11	7
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	10.7	7.1
cfm/ft²	2.60	2.60
cfm/ton	497.01	
ft²/ton	191.00	
Btu/hr·ft²	62.83	-77.79
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.2	2.4	2.4	99	76.4	59.8	50.3	55.0	51.1	49.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.2	2.4								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	38		
Part	632		
Int Door	0		
ExFlr	0		
Roof	41	0	0
Wall	70	11	15
Ext Door	21	21	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-3.0	99	63.2	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

System Checksums

By PB

System - 026 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 10 / 15
Outside Air: OADB/WB/HR: 65 / 56 / 52

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	61	61	1
Glass Solar	4,603	0	4,603	99
Glass/Door Cond	-530	0	-530	-11
Wall Cond	115	132	248	5
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-4		-4	0
Sub Total ==>	4,184	194	4,377	94
Internal Loads				
Lights	101	25	127	3
People	0	0	0	0
Misc	190	0	190	4
Sub Total ==>	291	25	317	7
Ceiling Load	18	-18	0	0
Ventilation Load	0	0	-172	-4
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-24	-24	-1
Sup. Fan Heat			92	2
Ret. Fan Heat		70	70	2
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	4,493	247	4,660	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	4,603	102
Glass/Door Cond	-530	-12
Wall Cond	115	3
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-5	0
Sub Total ==>	4,182	93
Internal Loads		
Lights	101	2
People	0	0
Misc	190	4
Sub Total ==>	291	6
Ceiling Load	18	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	4,492	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-187	3.04
Glass Solar	0	0	0.00
Glass/Door Cond	-2,105	-2,105	34.19
Wall Cond	-173	-371	6.02
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-27	-27	0.44
Sub Total ==>	-2,304	-2,689	43.69
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-32	0	0.00
Ventilation Load	0	-768	12.49
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	-2,338	-2,338	37.98
Exhaust Heat		21	-0.35
OA Preheat Diff.		-274	4.46
RA Preheat Diff.		-106	1.73
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-4,674	-6,155	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.4	90.0
Ra Plenum	75.8	68.7
Return	76.0	68.7
Ret/OA	75.1	65.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	236	236
Terminal	236	236
Main Fan	236	236
Sec Fan	0	0
Nom Vent	21	14
AHU Vent	21	14
Infil	0	0
MinStop/Rh	0	0
Return	236	236
Exhaust	21	14
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	8.8	5.8
cfm/ft²	3.18	3.18
cfm/ton	528.07	
ft²/ton	166.22	
Btu/hr·ft²	72.19	-90.78
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.5	5.4	5.3	236	75.1	58.8	48.1	55.0	50.5	47.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.5	5.4								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	74		
Part	789		
Int Door	0		
ExFlr	0		
Roof	80	0	0
Wall	116	0	0
Ext Door	60	60	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-6.7	236	64.4	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-6.7			

System Checksums

By PB

CUHs - Vestibules **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 9 / 17
Outside Air: OADB/WB/HR: 73 / 57 / 45

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	49	49	1
Glass Solar	3,896	0	3,896	79
Glass/Door Cond	-361	0	-361	-7
Wall Cond	58	66	124	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	0		0	0
Sub Total ==>	3,593	115	3,708	75
Internal Loads				
Lights	644	161	805	16
People	0	0	0	0
Misc	392	0	392	8
Sub Total ==>	1,036	161	1,197	24
Ceiling Load	42	-42	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			25	1
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	4,672	233	4,930	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,896	83
Glass/Door Cond	-361	-8
Wall Cond	58	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-1	0
Sub Total ==>	3,593	77
Internal Loads		
Lights	644	14
People	0	0
Misc	392	8
Sub Total ==>	1,036	22
Ceiling Load	42	1
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	4,671	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-130	3.38
Glass Solar	0	0	0.00
Glass/Door Cond	-3,370	-3,370	87.55
Wall Cond	-158	-337	8.75
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-12	-12	0.32
Sub Total ==>	-3,540	-3,849	100.01
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-53	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	-0.01
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,593	-3,849	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	85.4
Ra Plenum	75.9	68.9
Return	75.8	68.9
Ret/OA	75.8	68.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	210	210
Terminal	210	210
Main Fan	210	210
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	210	210
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	1.37	1.37
cfm/ton	510.02	
ft²/ton	372.71	
Btu/hr·ft²	32.20	-25.14
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.4	4.9	4.9	210	75.8	58.9	47.5	54.9	50.3	47.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.4	4.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	153		
Part	2,068		
Int Door	0		
ExFlr	0		
Roof	166	0	0
Wall	263	21	8
Ext Door	102	102	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-3.9	210	68.9	85.4
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.9			

System Checksums

By PB

DUMMY **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 5 / 1
Outside Air: OADB/WB/HR: 56 / 45 / 26

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	-19	-19	22
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	-47	-16	-63	74
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-4		-4	5
Sub Total ==>	-51	-35	-86	100
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	-67	67	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	-118	32	-86	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	-47	41
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-2	2
Sub Total ==>	-50	43
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	-67	57
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	-116	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-22	3.87
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-397	-554	95.90
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-2	-2	0.38
Sub Total ==>	-399	-578	100.15
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-179	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		1	-0.15
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-577	-577	100.00

TEMPERATURES

	Cooling	Heating
SADB	80.0	55.0
Ra Plenum	74.6	40.6
Return	74.6	40.6
Ret/OA	74.6	40.6
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	76.3	0.0	0.0	76.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	39		
Part	4,605		
Int Door	0		
ExFlr	0		
Roof	39	0	0
Wall	438	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	40.6	80.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

System Checksums

By PB

FCU - Elec **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	64	64	6
Glass Solar	74	0	74	7
Glass/Door Cond	47	0	47	5
Wall Cond	19	8	27	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	142	72	214	21
Internal Loads				
Lights	349	87	437	44
People	0	0	0	0
Misc	284	0	284	28
Sub Total ==>	633	87	721	72
Ceiling Load	72	-72	0	0
Ventilation Load	0	0	77	8
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-16	-16	-2
Sup. Fan Heat			5	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	847	72	1,001	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	74	9
Glass/Door Cond	52	6
Wall Cond	25	3
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	151	18
Internal Loads		
Lights	349	41
People	0	0
Misc	284	33
Sub Total ==>	633	74
Ceiling Load	71	8
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	856	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-86	5.93
Glass Solar	0	0	0.00
Glass/Door Cond	-724	-724	49.85
Wall Cond	-171	-279	19.25
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-9	-9	0.61
Sub Total ==>	-904	-1,098	75.65
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-87	0	0.00
Ventilation Load	0	-372	25.66
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		19	-1.30
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-991	-1,451	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	93.2
Ra Plenum	77.1	67.5
Return	77.1	67.5
Ret/OA	77.8	59.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	38	38
Terminal	38	38
Main Fan	38	38
Sec Fan	0	0
Nom Vent	7	7
AHU Vent	7	7
Infil	0	0
MinStop/Rh	0	0
Return	39	39
Exhaust	7	7
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	17.3	17.3
cfm/ft²	0.35	0.35
cfm/ton	460.20	
ft²/ton	1,329.17	
Btu/hr·ft²	9.03	-13.09
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	1.0	1.0	38	77.8	60.5	51.1	54.9	51.2	50.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	1.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	111		
Part	964		
Int Door	0		
ExFlr	0		
Roof	113	0	0
Wall	203	0	0
Ext Door	24	24	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-1.5	38	59.2	93.2
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.5			

System Checksums

By PB

FCU - Evid Dep **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	149	149	8
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	27	9	36	2
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	4		4	0
Sub Total ==>	31	158	189	11
Internal Loads				
Lights	501	125	627	35
People	0	0	0	0
Misc	664	0	664	37
Sub Total ==>	1,165	125	1,290	72
Ceiling Load	154	-154	0	0
Ventilation Load	0	0	370	21
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-66	-66	-4
Sup. Fan Heat			7	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	1,351	63	1,791	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	49	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	2	0
Sub Total ==>	51	4
Internal Loads		
Lights	501	37
People	0	0
Misc	664	49
Sub Total ==>	1,165	85
Ceiling Load	152	11
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	1,368	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-215	9.23
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-284	-434	18.65
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-21	-21	0.89
Sub Total ==>	-304	-669	28.77
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-198	0	0.00
Ventilation Load	0	-1,741	74.88
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		85	-3.65
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-503	-2,325	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	77.4
Ra Plenum	76.9	67.6
Return	76.9	67.6
Ret/OA	79.4	43.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	61	61
Terminal	61	61
Main Fan	61	61
Sec Fan	0	0
Nom Vent	31	31
AHU Vent	31	31
Infil	0	0
MinStop/Rh	0	0
Return	62	62
Exhaust	31	31
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	50.7	50.7
cfm/ft²	0.24	0.24
cfm/ton	411.05	
ft²/ton	1,737.53	
Btu/hr·ft²	6.91	-8.97
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.2	1.8	1.7	61	79.5	61.9	54.8	55.0	51.7	52.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.2	1.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	259		
Part	1,425		
Int Door	0		
ExFlr	0		
Roof	281	0	0
Wall	314	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-2.3	61	43.4	77.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.8	61	43.4	54.9
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.3			

System Checksums

By PB

FCU - Mech | **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	829	829	19
Glass Solar	149	0	149	3
Glass/Door Cond	130	0	130	3
Wall Cond	49	11	60	1
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	9		9	0
Sub Total ==>	337	840	1,178	27
Internal Loads				
Lights	1,223	306	1,529	36
People	0	0	0	0
Misc	1,313	0	1,313	31
Sub Total ==>	2,536	306	2,842	66
Ceiling Load	555	-555	0	0
Ventilation Load	0	0	374	9
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-120	-120	-3
Sup. Fan Heat			18	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	3,428	471	4,292	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	144	4
Glass/Door Cond	147	4
Wall Cond	69	2
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	5	0
Sub Total ==>	366	11
Internal Loads		
Lights	1,223	36
People	0	0
Misc	1,313	38
Sub Total ==>	2,536	74
Ceiling Load	543	16
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	3,445	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,139	23.44
Glass Solar	0	0	0.00
Glass/Door Cond	-1,375	-1,375	28.29
Wall Cond	-463	-731	15.04
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-41	-41	0.84
Sub Total ==>	-1,878	-3,286	67.61
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-681	0	0.00
Ventilation Load	0	-1,722	35.42
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		147	-3.03
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-2,560	-4,860	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	84.9
Ra Plenum	78.4	65.8
Return	78.4	65.8
Ret/OA	79.1	56.7
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	155	155
Terminal	155	155
Main Fan	155	155
Sec Fan	0	0
Nom Vent	31	31
AHU Vent	31	31
Infil	1	1
MinStop/Rh	0	0
Return	155	155
Exhaust	32	32
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	19.9	19.9
cfm/ft²	0.30	0.30
cfm/ton	432.05	
ft²/ton	1,433.83	
Btu/hr·ft²	8.37	-9.48
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.4	4.3	4.2	155	79.1	61.3	52.6	54.9	51.5	51.4
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.4	4.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	513		
Part	2,355		
Int Door	0		
ExFlr	0		
Roof	1,548	0	0
Wall	537	0	0
Ext Door	45	45	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-4.9	155	56.7	84.9
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.9			

System Checksums

By PB

FCU - TR#1 **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	74	74	12
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	2	74	76	13
Internal Loads				
Lights	186	46	232	39
People	0	0	0	0
Misc	243	0	243	40
Sub Total ==>	429	46	475	79
Ceiling Load	66	-66	0	0
Ventilation Load	0	0	65	11
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-14	-14	-2
Sup. Fan Heat			1	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	496	40	603	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	1	0
Internal Loads		
Lights	186	37
People	0	0
Misc	243	49
Sub Total ==>	429	86
Ceiling Load	66	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	496	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-80	20.19
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-8	-8	1.91
Sub Total ==>	-8	-88	22.10
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-44	0	0.00
Ventilation Load	0	-319	80.29
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		9	-2.39
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-51	-397	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	72.1
Ra Plenum	77.2	68.5
Return	77.2	68.5
Ret/OA	78.4	56.1
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	22	22
Terminal	22	22
Main Fan	22	22
Sec Fan	0	0
Nom Vent	6	6
AHU Vent	6	6
Infil	0	0
MinStop/Rh	0	0
Return	22	22
Exhaust	6	6
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	25.6	25.6
cfm/ft²	0.23	0.23
cfm/ton	443.03	
ft²/ton	1,892.70	
Btu/hr·ft²	6.34	-4.18
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	0.6	0.6	22	78.4	61.3	53.8	55.0	51.8	52.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.6								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	95		
Part	1,239		
Int Door	0		
ExFlr	0		
Roof	103	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.4	22	56.1	72.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.4			

System Checksums

By PB

FCU - TR#2 **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	65	65	11
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	2	65	67	11
Internal Loads				
Lights	186	46	232	40
People	0	0	0	0
Misc	237	0	237	40
Sub Total ==>	422	46	469	80
Ceiling Load	61	-61	0	0
Ventilation Load	0	0	63	11
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-13	-13	-2
Sup. Fan Heat			1	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	485	38	586	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	1	0
Internal Loads		
Lights	186	38
People	0	0
Misc	237	49
Sub Total ==>	422	87
Ceiling Load	61	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	484	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-78	20.19
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-7	-7	1.91
Sub Total ==>	-7	-85	22.10
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-43	0	0.00
Ventilation Load	0	-311	80.29
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		9	-2.38
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-50	-387	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	72.1
Ra Plenum	77.1	68.5
Return	77.1	68.5
Ret/OA	78.3	56.1
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	22	22
Terminal	22	22
Main Fan	22	22
Sec Fan	0	0
Nom Vent	6	6
AHU Vent	6	6
Infil	0	0
MinStop/Rh	0	0
Return	22	22
Exhaust	6	6
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	25.5	25.5
cfm/ft²	0.23	0.23
cfm/ton	444.67	
ft²/ton	1,893.09	
Btu/hr·ft²	6.34	-4.18
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	0.6	0.6	22	78.3	61.3	53.8	55.0	51.8	52.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.6								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	93		
Part	1,248		
Int Door	0		
ExFlr	0		
Roof	100	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.4	22	56.1	72.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.4			

System Checksums

By PB

Primary - VAV w/ BB | **VAV w/Baseboard Skin Heating**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	7,811	7,811	6
Glass Solar	4,975	0	4,975	4
Glass/Door Cond	612	0	612	0
Wall Cond	1,093	724	1,817	1
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	59		59	0
Sub Total ==>	6,738	8,535	15,273	11
Internal Loads				
Lights	21,477	5,369	26,846	19
People	62,272	0	62,272	44
Misc	27,483	0	27,483	20
Sub Total ==>	111,232	5,369	116,601	83
Ceiling Load	5,585	-5,585	0	0
Ventilation Load	0	0	7,950	6
Adj Air Trans Heat	870		870	1
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	28		28	0
Exhaust Heat		-3,984	-3,984	-3
Sup. Fan Heat			1,856	1
Ret. Fan Heat		1,346	1,346	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	124,453	5,680	139,939	100.00

CLG SPACE PEAK

Mo/Hr: 9 / 15
OADB: 75

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	11,217	11
Glass/Door Cond	-370	0
Wall Cond	716	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	8	0
Sub Total ==>	11,571	12
Internal Loads		
Lights	21,477	21
People	34,596	35
Misc	27,483	27
Sub Total ==>	83,556	83
Ceiling Load	4,112	4
Ventilation Load	0	0
Adj Air Trans Heat	870	1
Dehumid. Ov Sizing		
Ov/Undr Sizing	32	0
Exhaust Heat		
Sup. Fan Heat		
Ret. Fan Heat		
Duct Heat Pkup		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	100,141	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-8,992	8.99
Glass Solar	0	0	0.00
Glass/Door Cond	-7,586	-7,586	7.58
Wall Cond	-2,705	-4,539	4.54
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-856	-856	0.86
Sub Total ==>	-11,147	-21,973	21.97
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-6,360	0	0.00
Ventilation Load	0	-80,599	80.58
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		2,548	-2.55
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-17,507	-100,024	100.00

TEMPERATURES

	Cooling	Heating
SADB	56.7	0.0
Ra Plenum	76.6	0.0
Return	76.9	0.0
Ret/OA	79.1	0.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	4,907	2,537
Terminal	4,907	2,537
Main Fan	4,907	2,537
Sec Fan	0	0
Nom Vent	2,077	1,440
AHU Vent	2,077	1,440
Infil	15	15
MinStop/Rh	2,537	2,537
Return	4,704	2,552
Exhaust	1,874	0
Rm Exh	218	1
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	42.3	56.8
cfm/ft²	0.46	0.24
cfm/ton	420.76	
ft²/ton	920.69	
Btu/hr·ft²	13.03	-11.48
No. People	138	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	11.7	139.9	120.3	4,745	79.1	63.1	60.8	56.3	53.1	54.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	11.7	139.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	10,737		
Part	88,285		
Int Door	0		
ExFlr	0		
Roof	11,637	0	0
Wall	3,829	540	14
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	-17.5	0	0.0	0.0
Preheat	-84.6	2,077	19.8	56.3
Reheat	-38.6	2,537	56.3	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-140.7			

System Checksums

By PB

Secondary - VAV w/ BB | **VAV w/Baseboard Skin Heating**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,641	1,641	6
Glass Solar	2,202	0	2,202	8
Glass/Door Cond	451	0	451	2
Wall Cond	398	238	636	2
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	36		36	0
Sub Total ==>	3,087	1,879	4,965	18
Internal Loads				
Lights	4,713	1,178	5,891	22
People	5,850	0	5,850	22
Misc	6,845	0	6,845	25
Sub Total ==>	17,408	1,178	18,586	69
Ceiling Load	1,425	-1,425	0	0
Ventilation Load	0	0	3,745	14
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-872	-872	-3
Sup. Fan Heat			277	1
Ret. Fan Heat		258	258	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	21,920	1,017	26,959	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 19
OADB: 75

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,773	18
Glass/Door Cond	257	1
Wall Cond	836	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-1	0
Sub Total ==>	4,865	23
Internal Loads		
Lights	4,713	23
People	3,250	16
Misc	6,845	33
Sub Total ==>	14,808	71
Ceiling Load	1,096	5
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	20,770	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,127	8.44
Glass Solar	0	0	0.00
Glass/Door Cond	-5,308	-5,308	21.07
Wall Cond	-1,664	-2,740	10.87
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-213	-213	0.85
Sub Total ==>	-7,186	-10,389	41.23
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,924	0	0.00
Ventilation Load	0	-15,536	61.66
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		729	-2.89
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-9,110	-25,196	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	0.0
Ra Plenum	76.7	0.0
Return	77.0	0.0
Ret/OA	78.9	0.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	932	490
Terminal	932	490
Main Fan	932	490
Sec Fan	0	0
Nom Vent	398	278
AHU Vent	398	278
Infil	4	4
MinStop/Rh	490	490
Return	935	494
Exhaust	402	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	42.7	56.7
cfm/ft²	0.35	0.18
cfm/ton	414.69	
ft²/ton	1,190.34	
Btu/hr·ft²	10.08	-8.91
No. People	13	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	2.3	27.0	23.4	866	78.9	61.7	54.7	54.7	50.7	48.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.3	27.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	2,674		
Part	17,672		
Int Door	0		
ExFlr	0		
Roof	2,777	0	0
Wall	2,173	182	8
Ext Door	91	91	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	-9.1	0	0.0	0.0
Preheat	-15.5	398	19.8	54.7
Reheat	-8.4	490	54.7	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-32.9			

System Checksums

By PB

CUHs - Vestibules **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 9 / 17
Outside Air: OADB/WB/HR: 73 / 57 / 45

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	49	49	1
Glass Solar	3,896	0	3,896	79
Glass/Door Cond	-361	0	-361	-7
Wall Cond	58	66	124	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	0		0	0
Sub Total ==>	3,593	115	3,708	75
Internal Loads				
Lights	644	161	805	16
People	0	0	0	0
Misc	392	0	392	8
Sub Total ==>	1,036	161	1,197	24
Ceiling Load	42	-42	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			25	1
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	4,672	233	4,930	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,896	83
Glass/Door Cond	-361	-8
Wall Cond	58	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-1	0
Sub Total ==>	3,593	77
Internal Loads		
Lights	644	14
People	0	0
Misc	392	8
Sub Total ==>	1,036	22
Ceiling Load	42	1
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	4,671	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-130	3.38
Glass Solar	0	0	0.00
Glass/Door Cond	-3,370	-3,370	87.55
Wall Cond	-158	-337	8.75
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-12	-12	0.32
Sub Total ==>	-3,540	-3,849	100.01
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-53	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	-0.01
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,593	-3,849	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	85.4
Ra Plenum	75.9	68.9
Return	75.8	68.9
Ret/OA	75.8	68.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	210	210
Terminal	210	210
Main Fan	210	210
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	210	210
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	1.37	1.37
cfm/ton	510.02	
ft²/ton	372.71	
Btu/hr·ft²	32.20	-25.14
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.4	4.9	4.9	210	75.8	58.9	47.5	54.9	50.3	47.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.4	4.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	153		
Part	2,068		
Int Door	0		
ExFlr	0		
Roof	166	0	0
Wall	263	21	8
Ext Door	102	102	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-3.9	210	68.9	85.4
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.9			

System Checksums

By PB

DUMMY **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 5 / 1
Outside Air: OADB/WB/HR: 56 / 45 / 26

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	-19	-19	22
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	-47	-16	-63	74
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	-4		-4	5
Sub Total ==>	-51	-35	-86	100
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	-67	67	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	-118	32	-86	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	-47	41
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-2	2
Sub Total ==>	-50	43
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	-67	57
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	-116	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-22	3.87
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-397	-554	95.90
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-2	-2	0.38
Sub Total ==>	-399	-578	100.15
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-179	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		1	-0.15
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-577	-577	100.00

TEMPERATURES

	Cooling	Heating
SADB	80.0	55.0
Ra Plenum	74.6	40.6
Return	74.6	40.6
Ret/OA	74.6	40.6
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	76.3	0.0	0.0	76.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	39		
Part	4,605		
Int Door	0		
ExFlr	0		
Roof	39	0	0
Wall	438	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	40.6	80.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

System Checksums

By PB

FCU - Elec **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	64	64	6
Glass Solar	74	0	74	7
Glass/Door Cond	47	0	47	5
Wall Cond	19	8	27	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	142	72	214	21
Internal Loads				
Lights	349	87	437	44
People	0	0	0	0
Misc	284	0	284	28
Sub Total ==>	633	87	721	72
Ceiling Load	72	-72	0	0
Ventilation Load	0	0	77	8
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-16	-16	-2
Sup. Fan Heat			5	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	847	72	1,001	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	74	9
Glass/Door Cond	52	6
Wall Cond	25	3
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	151	18
Internal Loads		
Lights	349	41
People	0	0
Misc	284	33
Sub Total ==>	633	74
Ceiling Load	71	8
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	856	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-86	5.93
Glass Solar	0	0	0.00
Glass/Door Cond	-724	-724	49.85
Wall Cond	-171	-279	19.25
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-9	-9	0.61
Sub Total ==>	-904	-1,098	75.65
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-87	0	0.00
Ventilation Load	0	-372	25.66
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		19	-1.30
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-991	-1,451	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	93.2
Ra Plenum	77.1	67.5
Return	77.1	67.5
Ret/OA	77.8	59.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	38	38
Terminal	38	38
Main Fan	38	38
Sec Fan	0	0
Nom Vent	7	7
AHU Vent	7	7
Infil	0	0
MinStop/Rh	0	0
Return	39	39
Exhaust	7	7
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	17.3	17.3
cfm/ft²	0.35	0.35
cfm/ton	460.20	
ft²/ton	1,329.17	
Btu/hr·ft²	9.03	-13.09
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	1.0	1.0	38	77.8	60.5	51.1	54.9	51.2	50.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	1.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	111		
Part	964		
Int Door	0		
ExFlr	0		
Roof	113	0	0
Wall	203	0	0
Ext Door	24	24	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-1.5	38	59.2	93.2
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.5			

System Checksums

By PB

FCU - Evid Dep **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	149	149	8
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	27	9	36	2
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	4		4	0
Sub Total ==>	31	158	189	11
Internal Loads				
Lights	501	125	627	35
People	0	0	0	0
Misc	664	0	664	37
Sub Total ==>	1,165	125	1,290	72
Ceiling Load	154	-154	0	0
Ventilation Load	0	0	370	21
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-66	-66	-4
Sup. Fan Heat			2	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	1,351	63	1,785	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	49	4
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	2	0
Sub Total ==>	51	4
Internal Loads		
Lights	501	37
People	0	0
Misc	664	49
Sub Total ==>	1,165	85
Ceiling Load	152	11
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	1,368	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-215	9.23
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-284	-434	18.65
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-21	-21	0.89
Sub Total ==>	-304	-669	28.77
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-198	0	0.00
Ventilation Load	0	-1,741	74.88
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		85	-3.65
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-503	-2,325	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	77.4
Ra Plenum	76.9	67.6
Return	76.9	67.6
Ret/OA	79.4	43.4
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	61	61
Terminal	61	61
Main Fan	61	61
Sec Fan	0	0
Nom Vent	31	31
AHU Vent	31	31
Infil	0	0
MinStop/Rh	0	0
Return	62	62
Exhaust	31	31
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	50.7	50.7
cfm/ft²	0.24	0.24
cfm/ton	412.30	
ft²/ton	1,742.84	
Btu/hr·ft²	6.89	-8.97
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.2	1.8	1.7	61	79.5	61.9	54.8	55.0	51.7	52.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.2	1.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	259		
Part	1,425		
Int Door	0		
ExFlr	0		
Roof	281	0	0
Wall	314	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-2.3	61	43.4	77.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.8	61	43.4	55.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.3			

System Checksums

By PB

FCU - Mech **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	829	829	19
Glass Solar	149	0	149	3
Glass/Door Cond	130	0	130	3
Wall Cond	49	11	60	1
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	9		9	0
Sub Total ==>	337	840	1,178	27
Internal Loads				
Lights	1,223	306	1,529	36
People	0	0	0	0
Misc	1,313	0	1,313	31
Sub Total ==>	2,536	306	2,842	66
Ceiling Load	555	-555	0	0
Ventilation Load	0	0	374	9
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-120	-120	-3
Sup. Fan Heat			18	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	3,428	471	4,292	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	144	4
Glass/Door Cond	147	4
Wall Cond	69	2
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	5	0
Sub Total ==>	366	11
Internal Loads		
Lights	1,223	36
People	0	0
Misc	1,313	38
Sub Total ==>	2,536	74
Ceiling Load	543	16
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	3,445	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,139	23.44
Glass Solar	0	0	0.00
Glass/Door Cond	-1,375	-1,375	28.29
Wall Cond	-463	-731	15.04
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-41	-41	0.84
Sub Total ==>	-1,878	-3,286	67.61
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-681	0	0.00
Ventilation Load	0	-1,722	35.42
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		147	-3.03
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-2,560	-4,860	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	84.9
Ra Plenum	78.4	65.8
Return	78.4	65.8
Ret/OA	79.1	56.7
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	155	155
Terminal	155	155
Main Fan	155	155
Sec Fan	0	0
Nom Vent	31	31
AHU Vent	31	31
Infil	1	1
MinStop/Rh	0	0
Return	155	155
Exhaust	32	32
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	19.9	19.9
cfm/ft²	0.30	0.30
cfm/ton	432.05	
ft²/ton	1,433.83	
Btu/hr·ft²	8.37	-9.48
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.4	4.3	4.2	155	79.1	61.3	52.6	54.9	51.5	51.4
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.4	4.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	513		
Part	2,355		
Int Door	0		
ExFlr	0		
Roof	1,548	0	0
Wall	537	0	0
Ext Door	45	45	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-4.9	155	56.7	84.9
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.9			

System Checksums

By PB

FCU - TR#1 **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	74	74	12
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	2	74	76	13
Internal Loads				
Lights	186	46	232	39
People	0	0	0	0
Misc	243	0	243	40
Sub Total ==>	429	46	475	79
Ceiling Load	66	-66	0	0
Ventilation Load	0	0	65	11
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-14	-14	-2
Sup. Fan Heat			1	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	496	40	603	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	1	0
Internal Loads		
Lights	186	37
People	0	0
Misc	243	49
Sub Total ==>	429	86
Ceiling Load	66	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	496	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-80	20.19
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-8	-8	1.91
Sub Total ==>	-8	-88	22.10
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-44	0	0.00
Ventilation Load	0	-319	80.29
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		9	-2.39
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-51	-397	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	72.1
Ra Plenum	77.2	68.5
Return	77.2	68.5
Ret/OA	78.4	56.1
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	22	22
Terminal	22	22
Main Fan	22	22
Sec Fan	0	0
Nom Vent	6	6
AHU Vent	6	6
Infil	0	0
MinStop/Rh	0	0
Return	22	22
Exhaust	6	6
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	25.6	25.6
cfm/ft²	0.23	0.23
cfm/ton	443.03	
ft²/ton	1,892.70	
Btu/hr·ft²	6.34	-4.18
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	0.6	0.6	22	78.4	61.3	53.8	55.0	51.8	52.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.6								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	95		
Part	1,239		
Int Door	0		
ExFlr	0		
Roof	103	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.4	22	56.1	72.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.4			

System Checksums

By PB

FCU - TR#2 **Fan Coil**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	65	65	11
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	2		2	0
Sub Total ==>	2	65	67	11
Internal Loads				
Lights	186	46	232	40
People	0	0	0	0
Misc	237	0	237	40
Sub Total ==>	422	46	469	80
Ceiling Load	61	-61	0	0
Ventilation Load	0	0	63	11
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-13	-13	-2
Sup. Fan Heat			1	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	485	38	586	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	1	0
Sub Total ==>	1	0
Internal Loads		
Lights	186	38
People	0	0
Misc	237	49
Sub Total ==>	422	87
Ceiling Load	61	13
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	484	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-78	20.19
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-7	-7	1.91
Sub Total ==>	-7	-85	22.10
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-43	0	0.00
Ventilation Load	0	-311	80.29
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		9	-2.38
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-50	-387	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	72.1
Ra Plenum	77.1	68.5
Return	77.1	68.5
Ret/OA	78.3	56.1
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	22	22
Terminal	22	22
Main Fan	22	22
Sec Fan	0	0
Nom Vent	6	6
AHU Vent	6	6
Infil	0	0
MinStop/Rh	0	0
Return	22	22
Exhaust	6	6
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	25.5	25.5
cfm/ft²	0.23	0.23
cfm/ton	444.67	
ft²/ton	1,893.09	
Btu/hr·ft²	6.34	-4.18
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	0.1	0.6	0.6	22	78.3	61.3	53.8	55.0	51.8	52.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.6								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	93		
Part	1,248		
Int Door	0		
ExFlr	0		
Roof	100	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.4	22	56.1	72.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.4			

System Checksums

By PB

Primary - FPTU w/ Reheat | **Parallel Fan-Powered VAV, Htg Coil on Plenum Inlet**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 82 / 63 / 58

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	8,426	8,426	5
Glass Solar	4,975	0	4,975	3
Glass/Door Cond	612	0	612	0
Wall Cond	1,093	724	1,817	1
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	142		142	0
Sub Total ==>	6,822	9,151	15,973	9
Internal Loads				
Lights	21,978	5,495	27,473	16
People	65,422	0	65,422	37
Misc	29,826	0	29,826	17
Sub Total ==>	117,226	5,495	122,720	69
Ceiling Load	5,984	-5,984	0	0
Ventilation Load	0	0	44,111	25
Adj Air Trans Heat	871		871	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-10,396	-10,396	-6
Sup. Fan Heat			1,953	1
Ret. Fan Heat		1,419	1,419	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	130,903	-316	176,651	100.00

CLG SPACE PEAK

Mo/Hr: 9 / 15
OADB: 75

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	11,217	11
Glass/Door Cond	-370	0
Wall Cond	716	1
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	9	0
Sub Total ==>	11,572	11
Internal Loads		
Lights	21,978	21
People	36,346	35
Misc	29,826	28
Sub Total ==>	88,149	84
Ceiling Load	4,353	4
Ventilation Load	0	0
Adj Air Trans Heat	871	1
Ov/Undr Sizing	0	0
Grand Total ==>	104,945	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-9,774	3.76
Glass Solar	0	0	0.00
Glass/Door Cond	-7,586	-7,586	2.92
Wall Cond	-2,705	-4,560	1.75
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-929	-929	0.36
Sub Total ==>	-11,220	-22,849	8.79
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-6,687	0	0.00
Ventilation Load	0	-103,714	39.92
Adj Air Trans Heat	-2,468	-2,468	1
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		3,366	-1.30
OA Preheat Diff.		-134,168	51.64
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-20,375	-259,834	100.00

TEMPERATURES

	Cooling	Heating
SADB	56.7	76.9
Ra Plenum	76.6	68.2
Return	76.9	68.2
Ret/OA	81.9	19.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.1

AIRFLOWS

	Cooling	Heating
Diffuser	5,146	2,634
Terminal	5,146	2,634
Main Fan	5,146	1,853
Sec Fan	0	781
Nom Vent	5,146	1,853
AHU Vent	5,146	1,853
Infil	17	17
MinStop/Rh	1,853	1,853
Return	4,943	1,667
Exhaust	4,943	1,667
Rm Exh	219	203
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	100.0	70.4
cfm/ft²	0.44	0.07
cfm/ton	349.57	
ft²/ton	791.51	
Btu/hr·ft²	15.16	-22.24
No. People	145	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	14.7	176.7	143.0	4,992	81.9	63.4	57.7	56.4	51.2	47.8
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	14.7	176.7								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	11,652		
Part	92,564		
Int Door	0		
ExFlr	0		
Roof	12,628	0	0
Wall	3,829	540	14
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-49.4	781	68.2	125.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-209.7	5,146	19.8	56.4
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-259.1			

System Checksums

By PB

Secondary - FPTU w/ Reheat | **Parallel Fan-Powered VAV, Htg Coil on Plenum Inlet**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 81 / 63 / 57

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	1,074	1,074	4
Glass Solar	2,202	0	2,202	9
Glass/Door Cond	451	0	451	2
Wall Cond	398	237	635	3
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0	0	0	0
Infiltration	33		33	0
Sub Total ==>	3,084	1,311	4,395	18
Internal Loads				
Lights	4,211	1,053	5,264	21
People	2,700	0	2,700	11
Misc	4,503	0	4,503	18
Sub Total ==>	11,414	1,053	12,467	50
Ceiling Load	971	-971	0	0
Ventilation Load	0	0	9,530	38
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-1,775	-1,775	-7
Sup. Fan Heat			205	1
Ret. Fan Heat		213	213	1
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	15,470	-170	25,034	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 19
OADB: 75

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	3,773	24
Glass/Door Cond	257	2
Wall Cond	836	5
Partition/Door	0	0
Floor	0	0
Adjacent Floor	0	0
Infiltration	-1	0
Sub Total ==>	4,866	31
Internal Loads		
Lights	4,211	26
People	1,500	9
Misc	4,503	28
Sub Total ==>	10,214	64
Ceiling Load	862	5
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	15,942	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 20

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,369	3.32
Glass Solar	0	0	0.00
Glass/Door Cond	-5,308	-5,308	12.88
Wall Cond	-1,664	-2,751	6.67
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0	0	0
Infiltration	-140	-140	0.34
Sub Total ==>	-7,113	-9,569	23.22
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-1,261	0	0.00
Ventilation Load	0	-14,723	35.72
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		670	-1.63
OA Preheat Diff.		-17,591	42.68
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-8,374	-41,214	100.00

TEMPERATURES

	Cooling	Heating
SADB	55.0	85.9
Ra Plenum	76.7	67.7
Return	77.0	67.7
Ret/OA	81.3	19.8
Fn MtrTD	0.0	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.1

AIRFLOWS

	Cooling	Heating
Diffuser	715	471
Terminal	715	471
Main Fan	715	263
Sec Fan	0	208
Nom Vent	715	263
AHU Vent	715	263
Infil	3	3
MinStop/Rh	263	263
Return	718	266
Exhaust	718	266
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	100.0	55.8
cfm/ft²	0.41	0.12
cfm/ton	342.78	
ft²/ton	843.24	
Btu/hr·ft²	14.23	-23.38
No. People	6	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Enter DB/WB/HR °F	Enter DB/WB/HR gr/lb	Leave DB/WB/HR °F	Leave DB/WB/HR °F	Leave DB/WB/HR gr/lb
Main Clg	2.1	25.0	19.3	639	81.3	62.9	56.6	54.7	49.1	42.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.1	25.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,759		
Part	13,393		
Int Door	0		
ExFlr	0		
Roof	1,786	0	0
Wall	2,173	182	8
Ext Door	91	91	100

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-13.3	208	67.7	125.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-27.8	715	19.8	54.7
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-41.1			

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System Ventilation Requirements

AHU Location	Description		∑ Vpz cfm	Ps People	∑ Pz People	D Ps / ∑ Pz	Vou cfm	Vps cfm	Xs	Ev	Vot cfm	%OA Vot / Vps
Alternative 1												
Zone	Default System	Cooling	0	1	1	1.00	0	0	0.000	1.000	0	0.0
		Heating	0	1	1	1.00	0	0	0.000	1.000	0	0.0
Zone	System - 002	Cooling	837	4	4	1.00	170	837	0.203	0.482	352	42.0
		Heating	837	4	4	1.00	170	837	0.203	0.482	352	42.0
Zone	System - 003	Cooling	576	18	18	1.00	74	576	0.128	0.478	154	26.7
		Heating	576	18	18	1.00	74	576	0.128	0.478	154	26.7
Zone	System - 004	Cooling	549	3	3	1.00	83	549	0.151	0.953	87	15.9
		Heating	549	3	3	1.00	83	549	0.151	0.953	87	15.9
Zone	System - 005	Cooling	271	3	3	1.00	122	271	0.452	0.965	127	46.8
		Heating	271	3	3	1.00	122	271	0.452	0.965	127	46.8
Zone	System - 006	Cooling	519	5	5	1.00	126	519	0.243	0.969	130	25.1
		Heating	519	5	5	1.00	126	519	0.243	0.969	130	25.1
Zone	System - 007	Cooling	90	0	0	1.00	48	90	0.531	1.000	48	53.1
		Heating	90	0	0	1.00	48	90	0.531	1.000	48	53.1
Zone	System - 008	Cooling	160	1	1	1.00	82	160	0.514	0.910	90	56.5
		Heating	160	1	1	1.00	82	160	0.514	0.910	90	56.5
Zone	System - 009	Cooling	39	0	0	1.00	17	39	0.443	1.000	17	44.3
		Heating	39	0	0	1.00	17	39	0.443	1.000	17	44.3
Zone	System - 010	Cooling	280	0	0	1.00	153	280	0.546	0.902	170	60.5
		Heating	280	0	0	1.00	153	280	0.546	0.902	170	60.5
Zone	System - 011	Cooling	245	0	0	1.00	95	245	0.387	1.000	95	38.7
		Heating	245	0	0	1.00	95	245	0.387	1.000	95	38.7
Zone	System - 012	Cooling	79	0	0	1.00	21	79	0.258	1.000	21	25.8
		Heating	79	0	0	1.00	21	79	0.258	1.000	21	25.8
Zone	System - 013	Cooling	40	0	0	1.00	18	40	0.439	1.000	18	43.9
		Heating	40	0	0	1.00	18	40	0.439	1.000	18	43.9
Zone	System - 014	Cooling	1,106	50	50	1.00	205	1,106	0.185	1.000	205	18.5
		Heating	1,106	50	50	1.00	205	1,106	0.185	1.000	205	18.5

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System Ventilation Requirements

AHU Location	Description		∑Vpz cfm	Ps People	∑ Pz People	D Ps / ∑Pz	Vou cfm	Vps cfm	Xs	Ev	Vot cfm	%OA Vot / Vps
Alternative 1												
Zone	System - 015	Cooling	411	7	7	1.00	169	411	0.411	1.000	169	41.1
		Heating	411	7	7	1.00	169	411	0.411	1.000	169	41.1
Zone	System - 016	Cooling	416	0	0	1.00	137	416	0.331	0.822	167	40.2
		Heating	416	0	0	1.00	137	416	0.331	0.822	167	40.2
Zone	System - 017	Cooling	634	3	3	1.00	94	634	0.148	0.695	135	21.3
		Heating	634	3	3	1.00	94	634	0.148	0.695	135	21.3
Zone	System - 018	Cooling	605	3	3	1.00	94	605	0.155	0.708	133	21.9
		Heating	605	3	3	1.00	94	605	0.155	0.708	133	21.9
Zone	System - 019	Cooling	969	5	5	1.00	101	969	0.104	1.000	101	10.4
		Heating	969	5	5	1.00	101	969	0.104	1.000	101	10.4
Zone	System - 020	Cooling	681	4	4	1.00	202	681	0.297	0.610	331	48.6
		Heating	681	4	4	1.00	202	681	0.297	0.610	331	48.6
Zone	System - 021	Cooling	778	6	6	1.00	255	778	0.328	0.625	408	52.5
		Heating	778	6	6	1.00	255	778	0.328	0.625	408	52.5
Zone	System - 022	Cooling	701	24	24	1.00	98	701	0.140	0.760	129	18.5
		Heating	701	24	24	1.00	98	701	0.140	0.760	129	18.5
Zone	System - 023	Cooling	569	11	11	1.00	246	569	0.432	0.721	341	59.9
		Heating	569	11	11	1.00	246	569	0.432	0.721	341	59.9
Zone	System - 024	Cooling	183	4	4	1.00	56	183	0.304	1.000	56	30.4
		Heating	183	4	4	1.00	56	183	0.304	1.000	56	30.4
Zone	System - 025	Cooling	99	0	0	1.00	7	99	0.071	1.000	7	7.1
		Heating	99	0	0	1.00	7	99	0.071	1.000	7	7.1
Zone	System - 026	Cooling	236	0	0	1.00	14	236	0.058	1.000	14	5.8
		Heating	236	0	0	1.00	14	236	0.058	1.000	14	5.8

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
6 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
27 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
30 Space	0.00	0.00	0.00	2	0	1.00	0	1.00	0
31 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
32 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
34 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
36 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
37 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
38 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
39 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
41 Space	0.00	0.00	0.00	2	0	1.00	0	1.00	0
42 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
44 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
47 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
48 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
50 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
52 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
53 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
55 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
56 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
59 Space	0.00	0.00	0.00	0	0	1.00	0	1.00	0
63 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
67 Space	0.00	0.00	0.00	1	0	1.00	0	1.00	0
86 Space	0.00	0.00	0.00	4	0	1.00	0	1.00	0
90 Space	0.00	0.00	0.00	8	0	1.00	0	1.00	0
92 Space	0.00	0.00	0.00	3	0	1.00	0	1.00	0
97 Space	0.00	0.00	0.00	4	0	1.00	0	1.00	0
99 Space	0.00	0.00	0.00	4	0	1.00	0	1.00	0
130 JANITOR	0.00	0.00	0.00	36	0	1.00	0	1.00	0
164 TOILET	0.00	1.00	0.00	81	0	1.00	0	1.00	0
Default	0.00	1.00	0.00	157	0		0		0

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
Default System	0.00	1.00	0.00	157	0		0		0
158 CORRIDOR	0.00	0.00	0.19	265	49	1.00	49	1.00	49
159 CLOSET	0.00	0.00	0.19	37	7	1.00	7	1.00	7
160 COMMANDER OFFICE	0.00	1.00	0.19	187	35	1.00	35	1.00	35
161 EXECUTIVE OFFICER OFFICE	0.00	1.00	0.19	151	28	1.00	28	1.00	28
162 COMMAND SARGEANT MAJOR OFFICE	0.00	1.00	0.19	150	28	1.00	28	1.00	28
163 OFFICE SUPPORT TECH OFFICE	0.00	1.00	0.19	128	24	1.00	24	1.00	24
SOUTHEAST OFFICES	0.00	4.00	0.19	917	170		170		170
System - 002	0.00	4.00	0.19	917	170		170		170
156 COMMAND CONFERENCE ROOM	0.00	18.00	0.19	370	68	1.00	68	1.00	68
157 CLOSET	0.00	0.00	0.19	28	5	1.00	5	1.00	5
COMMAND CONF ROOM	0.00	18.00	0.19	398	74		74		74
System - 003	0.00	18.00	0.19	398	74		74		74
152 OPERATIONS NCO OFFICE	0.00	1.00	0.19	136	25	1.00	25	1.00	25
153 FORENSICS OFFICE	0.00	1.00	0.19	126	23	1.00	23	1.00	23
154 S-2 / S-3 OFFICE	0.00	1.00	0.19	187	35	1.00	35	1.00	35
EAST OFFICES	0.00	3.00	0.19	449	83		83		83
System - 004	0.00	3.00	0.19	449	83		83		83
149 SUPRESSION CRIMINAL INVESTIGATOR C	0.00	1.00	0.19	115	21	1.00	21	1.00	21
151 INTELLIGENCE SURVEILLANCE - RECONN	0.00	1.00	0.19	431	80	1.00	80	1.00	80
155 CRIMINAL INVESTIGATION COMMAND OPI	0.00	1.00	0.19	115	21	1.00	21	1.00	21
INTEL SURV & RECON 2	0.00	3.00	0.19	662	122		122		122
System - 005	0.00	3.00	0.19	662	122		122		122
148 CRIMINAL INTELLIGENCE OFFICE	0.00	1.00	0.19	109	20	1.00	20	1.00	20
150 INTELLIGENCE SURVEILLANCE - RECONN	0.00	4.00	0.19	573	106	1.00	106	1.00	106
INTEL SURV & RECON	0.00	5.00	0.19	682	126		126		126
System - 006	0.00	5.00	0.19	682	126		126		126
146 EVIDENCE DEPOSITORY ROOM	0.00	0.00	0.19	259	48	1.00	48	1.00	48
EVIDENCE DEPOSITORY	0.00	0.00	0.19	259	48		48		48
System - 007	0.00	0.00	0.19	259	48		48		48
144 GENERAL STORAGE ROOM	0.00	0.00	0.19	151	28	1.00	28	1.00	28

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
145 EVIDENCE PROCESSING ROOM	0.00	1.00	0.19	142	26	1.00	26	1.00	26
147 SECURE STORAGE ROOM	0.00	0.00	0.19	151	28	1.00	28	1.00	28
EVIDENCE PROCESSING	0.00	1.00	0.19	444	82		82		82
System - 008	0.00	1.00	0.19	444	82		82		82
136 TELECOM ROOM	0.00	0.00	0.19	93	17	1.00	17	1.00	17
TELECOM ROOM 136	0.00	0.00	0.19	93	17		17		17
System - 009	0.00	0.00	0.19	93	17		17		17
131 CORRIDOR	0.00	0.00	0.19	301	56	1.00	56	1.00	56
132A WOMEN	0.00	0.00	0.19	173	32	1.00	32	1.00	32
132B WOMEN SHOWERS	0.00	0.00	0.19	90	17	1.00	17	1.00	17
133A MEN	0.00	0.00	0.19	174	32	1.00	32	1.00	32
133B MEN SHOWERS	0.00	0.00	0.19	89	17	1.00	17	1.00	17
RESTROOMS	0.00	0.00	0.19	827	153		153		153
System - 010	0.00	0.00	0.19	827	153		153		153
129 MECHANICAL ROOM	0.00	0.00	0.19	513	95	1.00	95	1.00	95
MECHANICAL ROOM	0.00	0.00	0.19	513	95		95		95
System - 011	0.00	0.00	0.19	513	95		95		95
128 ELECTRICAL ROOM	0.00	0.00	0.19	111	21	1.00	21	1.00	21
ELECTRICAL ROOM	0.00	0.00	0.19	111	21		21		21
System - 012	0.00	0.00	0.19	111	21		21		21
127 TELECOM ROOM	0.00	0.00	0.19	95	18	1.00	18	1.00	18
TELECOM ROOM 127	0.00	0.00	0.19	95	18		18		18
System - 013	0.00	0.00	0.19	95	18		18		18
126A CLASSROOM	0.00	50.00	0.19	1,106	205	1.00	205	1.00	205
CLASSROOM	0.00	50.00	0.19	1,106	205		205		205
System - 014	0.00	50.00	0.19	1,106	205		205		205
123 COMPANY OPERATIONS FACILITY AREA	0.00	7.00	0.19	915	169	1.00	169	1.00	169
COF AREA	0.00	7.00	0.19	915	169		169		169
System - 015	0.00	7.00	0.19	915	169		169		169
120 ARMS VAULT	0.00	0.00	0.19	106	20	1.00	20	1.00	20
121 TABLE OF ORGANIZATION AND EQUIPMEI	0.00	0.00	0.19	280	52	1.00	52	1.00	52

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
122 SUPPLY ROOM	0.00	0.00	0.19	225	42	1.00	42	1.00	42
126B CLASSROOM STORAGE ROOM	0.00	0.00	0.19	131	24	1.00	24	1.00	24
NORTHWEST STORAGE	0.00	0.00	0.19	743	137		137		137
System - 016	0.00	0.00	0.19	743	137		137		137
116 INFORMATION MANAGEMENT S-6 OFFICE	0.00	1.00	0.19	115	21	1.00	21	1.00	21
117 SUPPLY ROOM	0.00	0.00	0.19	127	23	1.00	23	1.00	23
118 COMMANDER OFFICE	0.00	1.00	0.19	160	30	1.00	30	1.00	30
119 SARGEANT OFFICE	0.00	1.00	0.19	106	20	1.00	20	1.00	20
WEST OFFICES	0.00	3.00	0.19	508	94		94		94
System - 017	0.00	3.00	0.19	508	94		94		94
110 SUPPLY MANAGER OFFICE	0.00	0.00	0.19	110	20	1.00	20	1.00	20
111 LOGISTICS OPERATIONS MANAGER S-4 C	0.00	1.00	0.19	115	21	1.00	21	1.00	21
114A INFORMATION MANAGEMENT AREA S-6	0.00	1.00	0.19	167	31	1.00	31	1.00	31
115 SECTION CHIEF OFFICE	0.00	1.00	0.19	116	21	1.00	21	1.00	21
SOUTHWEST OFFICES	0.00	3.00	0.19	508	94		94		94
System - 018	0.00	3.00	0.19	508	94		94		94
106A HUMAN RESOURCES AREA S-1	0.00	2.00	0.19	215	40	1.00	40	1.00	40
107 HUMAN RESOURCES S-1 OFFICER OFFICI	0.00	1.00	0.19	110	20	1.00	20	1.00	20
108 SENIOR HR SARGEANT OFFICE	0.00	1.00	0.19	110	20	1.00	20	1.00	20
109 SENIOR MAINTENANCE SUPERVISOR OFF	0.00	1.00	0.19	110	20	1.00	20	1.00	20
SOUTH OFFICES	0.00	5.00	0.19	546	101		101		101
System - 019	0.00	5.00	0.19	546	101		101		101
105B CORRIDOR	0.00	0.00	0.19	300	56	1.00	56	1.00	56
106 HUMAN RESOURCES AREA S-1	0.00	4.00	0.19	682	126	1.00	126	1.00	126
134 CLOSET	0.00	0.00	0.19	33	6	1.00	6	1.00	6
135 MESSAGE CENTER	0.00	0.00	0.19	76	14	1.00	14	1.00	14
HR & MESSAGE CENTER	0.00	4.00	0.19	1,091	202		202		202
System - 020	0.00	4.00	0.19	1,091	202		202		202
105 CORRIDOR	0.00	0.00	0.19	370	69	1.00	69	1.00	69
112 SUPPLY ROOM	0.00	0.00	0.19	75	14	1.00	14	1.00	14
113 LOGISTICS OPERATIONS OPEN AREA S-4	0.00	2.00	0.19	458	85	1.00	85	1.00	85

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
114 INFORMATION MANAGEMENT AREA S-6	0.00	2.00	0.19	267	49	1.00	49	1.00	49
124 CHAPLAIN OFFICE	0.00	1.00	0.19	106	20	1.00	20	1.00	20
125 CHAPLAIN ASSISTANT OFFICE	0.00	1.00	0.19	101	19	1.00	19	1.00	19
CHAPLAIN & LOGISTICS OPS	0.00	6.00	0.19	1,378	255		255		255
System - 021	0.00	6.00	0.19	1,378	255		255		255
103 BREAK ROOM	0.00	24.00	0.19	386	71	1.00	71	1.00	71
104 VENDING / RECYCLE AREA	0.00	0.00	0.19	146	27	1.00	27	1.00	27
BREAK ROOM	0.00	24.00	0.19	532	98		98		98
System - 022	0.00	24.00	0.19	532	98		98		98
102 DUTY AGENT OFFICE	0.00	1.00	0.19	80	15	1.00	15	1.00	15
105A CORRIDOR	0.00	0.00	0.19	299	55	1.00	55	1.00	55
137 CBRN STAFF ROOM	0.00	1.00	0.19	113	21	1.00	21	1.00	21
138 POLYGRAPH OFFICE W-2	0.00	2.00	0.19	114	21	1.00	21	1.00	21
139 POLYGRAPH OFFICE W-3	0.00	2.00	0.19	140	26	1.00	26	1.00	26
140 CORRIDOR	0.00	0.00	0.19	116	21	1.00	21	1.00	21
141 OBSERVATION ROOM	0.00	2.00	0.19	51	9	1.00	9	1.00	9
142 POLYGRAPH EXAM ROOM	0.00	2.00	0.19	116	21	1.00	21	1.00	21
143 LOG SECURITY ROOM	0.00	1.00	0.19	114	21	1.00	21	1.00	21
151A INTELLIGENCE SURVEILLANCE - RECON	0.00	0.00	0.19	186	34	1.00	34	1.00	34
CORE SUSPECT AREA	0.00	11.00	0.19	1,329	246		246		246
System - 023	0.00	11.00	0.19	1,329	246		246		246
101 VISITOR WAITING AREA	0.00	4.00	0.19	260	48	1.00	48	1.00	48
VISITOR WAITING	0.00	4.00	0.19	260	48		48		48
003 VESTIBULE NORTH	0.00	0.00	0.19	41	8	1.00	8	1.00	8
VESTIBULE NORTH	0.00	0.00	0.19	41	8		8		8
System - 024	0.00	4.00	0.19	301	56		56		56
002 VESTIBULE WEST	0.00	0.00	0.19	38	7	1.00	7	1.00	7
VESTIBULE WEST	0.00	0.00	0.19	38	7		7		7
System - 025	0.00	0.00	0.19	38	7		7		7
001 ENTRY VESTIBULE	0.00	0.00	0.19	74	14	1.00	14	1.00	14
ENTRY VESTIBULE	0.00	0.00	0.19	74	14		14		14

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 1									
System - 026	0.00	0.00	0.19	74	14		14		14

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
6 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
27 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
30 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
31 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
32 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
34 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
36 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
37 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
38 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
39 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
41 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
42 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
44 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
47 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
48 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
50 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
52 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
53 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
55 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
56 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
59 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
63 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
67 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
86 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
90 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
92 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
97 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
99 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
130 JANITOR	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
164 TOILET	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
Default		0	0	0	0	0							1.000	
Default System		0	0	0	0	0							1.000	
158 CORRIDOR	Single Fan CV	68	68	68	0	49	0.720	1.00	0.00	1.00	1.00	1.00	0.482	*

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
159 CLOSET	Single Fan CV	15	15	15	0	7	0.447	1.00	0.00	1.00	1.00	1.00	0.755	
160 COMMANDER OFFICE	Single Fan CV	319	319	319	0	35	0.108	1.00	0.00	1.00	1.00	1.00	1.000	
161 EXECUTIVE OFFICER OFFIC	Single Fan CV	184	184	184	0	28	0.152	1.00	0.00	1.00	1.00	1.00	1.000	
162 COMMAND SARGEANT MAJ(	Single Fan CV	182	182	182	0	28	0.152	1.00	0.00	1.00	1.00	1.00	1.000	
163 OFFICE SUPPORT TECH OF	Single Fan CV	69	69	69	0	24	0.340	1.00	0.00	1.00	1.00	1.00	0.863	
SOUTHEAST OFFICES		837	837	837	0	170							0.482	
System - 002		837	837	837	0	170							0.482	
156 COMMAND CONFERENCE R	Single Fan CV	568	568	568	0	68	0.121	1.00	0.00	1.00	1.00	1.00	1.000	
157 CLOSET	Single Fan CV	8	8	8	0	5	0.650	1.00	0.00	1.00	1.00	1.00	0.478	*
COMMAND CONF ROOM		576	576	576	0	74							0.478	
System - 003		576	576	576	0	74							0.478	
152 OPERATIONS NCO OFFICE	Single Fan CV	219	219	219	0	25	0.115	1.00	0.00	1.00	1.00	1.00	1.000	
153 FORENSICS OFFICE	Single Fan CV	155	155	155	0	23	0.151	1.00	0.00	1.00	1.00	1.00	1.000	
154 S-2 / S-3 OFFICE	Single Fan CV	174	174	174	0	35	0.198	1.00	0.00	1.00	1.00	1.00	0.953	*
EAST OFFICES		549	549	549	0	83							0.953	
System - 004		549	549	549	0	83							0.953	
149 SUPRESSION CRIMINAL INV	Single Fan CV	53	53	53	0	21	0.399	1.00	0.00	1.00	1.00	1.00	1.000	
151 INTELLIGENCE SURVEILLAN	Single Fan CV	164	164	164	0	80	0.487	1.00	0.00	1.00	1.00	1.00	0.965	*
155 CRIMINAL INVESTIGATION C	Single Fan CV	53	53	53	0	21	0.399	1.00	0.00	1.00	1.00	1.00	1.000	
INTEL SURV & RECON 2		271	271	271	0	122							0.965	
System - 005		271	271	271	0	122							0.965	
148 CRIMINAL INTELLIGENCE OI	Single Fan CV	74	74	74	0	20	0.274	1.00	0.00	1.00	1.00	1.00	0.969	*
150 INTELLIGENCE SURVEILLAN	Single Fan CV	445	445	445	0	106	0.238	1.00	0.00	1.00	1.00	1.00	1.000	
INTEL SURV & RECON		519	519	519	0	126							0.969	
System - 006		519	519	519	0	126							0.969	
146 EVIDENCE DEPOSITORY RC	Single Fan CV	90	90	90	0	48	0.531	1.00	0.00	1.00	1.00	1.00	1.000	*
EVIDENCE DEPOSITORY		90	90	90	0	48							1.000	
System - 007		90	90	90	0	48							1.000	
144 GENERAL STORAGE ROOM	Single Fan CV	46	46	46	0	28	0.604	1.00	0.00	1.00	1.00	1.00	0.910	
145 EVIDENCE PROCESSING RC	Single Fan CV	67	67	67	0	26	0.390	1.00	0.00	1.00	1.00	1.00	1.000	
147 SECURE STORAGE ROOM	Single Fan CV	46	46	46	0	28	0.604	1.00	0.00	1.00	1.00	1.00	0.910	*
EVIDENCE PROCESSING		160	160	160	0	82							0.910	
System - 008		160	160	160	0	82							0.910	

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
136 TELECOM ROOM	Single Fan CV	39	39	39	0	17	0.443	1.00	0.00	1.00	1.00	1.00	1.000	*
TELECOM ROOM 136		39	39	39	0	17							1.000	
System - 009		39	39	39	0	17							1.000	
131 CORRIDOR	Single Fan CV	87	87	87	0	56	0.643	1.00	0.00	1.00	1.00	1.00	0.902	*
132A WOMEN	Single Fan CV	66	66	66	0	32	0.486	1.00	0.00	1.00	1.00	1.00	1.000	
132B WOMEN SHOWERS	Single Fan CV	31	31	31	0	17	0.536	1.00	0.00	1.00	1.00	1.00	1.000	
133A MEN	Single Fan CV	66	66	66	0	32	0.486	1.00	0.00	1.00	1.00	1.00	1.000	
133B MEN SHOWERS	Single Fan CV	31	31	31	0	17	0.536	1.00	0.00	1.00	1.00	1.00	1.000	
RESTROOMS		280	280	280	0	153							0.902	
System - 010		280	280	280	0	153							0.902	
129 MECHANICAL ROOM	Single Fan CV	245	245	245	0	95	0.387	1.00	0.00	1.00	1.00	1.00	1.000	*
MECHANICAL ROOM		245	245	245	0	95							1.000	
System - 011		245	245	245	0	95							1.000	
128 ELECTRICAL ROOM	Single Fan CV	79	79	79	0	21	0.258	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		79	79	79	0	21							1.000	
System - 012		79	79	79	0	21							1.000	
127 TELECOM ROOM	Single Fan CV	40	40	40	0	18	0.439	1.00	0.00	1.00	1.00	1.00	1.000	*
TELECOM ROOM 127		40	40	40	0	18							1.000	
System - 013		40	40	40	0	18							1.000	
126A CLASSROOM	Single Fan CV	1,106	1,106	1,106	0	205	0.185	1.00	0.00	1.00	1.00	1.00	1.000	*
CLASSROOM		1,106	1,106	1,106	0	205							1.000	
System - 014		1,106	1,106	1,106	0	205							1.000	
123 COMPANY OPERATIONS FA	Single Fan CV	411	411	411	0	169	0.411	1.00	0.00	1.00	1.00	1.00	1.000	*
COF AREA		411	411	411	0	169							1.000	
System - 015		411	411	411	0	169							1.000	
120 ARMS VAULT	Single Fan CV	50	50	50	0	20	0.389	1.00	0.00	1.00	1.00	1.00	0.941	
121 TABLE OF ORGANIZATION A	Single Fan CV	181	181	181	0	52	0.286	1.00	0.00	1.00	1.00	1.00	1.000	
122 SUPPLY ROOM	Single Fan CV	136	136	136	0	42	0.306	1.00	0.00	1.00	1.00	1.00	1.000	
126B CLASSROOM STORAGE R(	Single Fan CV	48	48	48	0	24	0.509	1.00	0.00	1.00	1.00	1.00	0.822	*
NORTHWEST STORAGE		416	416	416	0	137							0.822	
System - 016		416	416	416	0	137							0.822	
116 INFORMATION MANAGEMEN	Single Fan CV	158	158	158	0	21	0.135	1.00	0.00	1.00	1.00	1.00	1.000	
117 SUPPLY ROOM	Single Fan CV	52	52	52	0	23	0.455	1.00	0.00	1.00	1.00	1.00	0.695	*

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
118 COMMANDER OFFICE	Single Fan CV	290	290	290	0	30	0.102	1.00	0.00	1.00	1.00	1.00	1.000	
119 SARGEANT OFFICE	Single Fan CV	134	134	134	0	20	0.146	1.00	0.00	1.00	1.00	1.00	1.000	
WEST OFFICES		634	634	634	0	94							0.695	
System - 017		634	634	634	0	94							0.695	
110 SUPPLY MANAGER OFFICE	Single Fan CV	146	146	146	0	20	0.140	1.00	0.00	1.00	1.00	1.00	1.000	
111 LOGISTICS OPERATIONS M/	Single Fan CV	171	171	171	0	21	0.124	1.00	0.00	1.00	1.00	1.00	1.000	
114A INFORMATION MANAGEME	Single Fan CV	69	69	69	0	31	0.447	1.00	0.00	1.00	1.00	1.00	0.708	*
115 SECTION CHIEF OFFICE	Single Fan CV	219	219	219	0	21	0.098	1.00	0.00	1.00	1.00	1.00	1.000	
SOUTHWEST OFFICES		605	605	605	0	94							0.708	
System - 018		605	605	605	0	94							0.708	
106A HUMAN RESOURCES ARE/	Single Fan CV	454	454	454	0	40	0.088	1.00	0.00	1.00	1.00	1.00	1.000	
107 HUMAN RESOURCES S-1 OF	Single Fan CV	159	159	159	0	20	0.128	1.00	0.00	1.00	1.00	1.00	1.000	*
108 SENIOR HR SARGEANT OFF	Single Fan CV	178	178	178	0	20	0.114	1.00	0.00	1.00	1.00	1.00	1.000	
109 SENIOR MAINTENANCE SUF	Single Fan CV	178	178	178	0	20	0.114	1.00	0.00	1.00	1.00	1.00	1.000	
SOUTH OFFICES		969	969	969	0	101							1.000	
System - 019		969	969	969	0	101							1.000	
105B CORRIDOR	Single Fan CV	81	81	81	0	56	0.687	1.00	0.00	1.00	1.00	1.00	0.610	*
106 HUMAN RESOURCES AREA	Single Fan CV	563	563	563	0	126	0.224	1.00	0.00	1.00	1.00	1.00	1.000	
134 CLOSET	Single Fan CV	10	10	10	0	6	0.592	1.00	0.00	1.00	1.00	1.00	0.704	
135 MESSAGE CENTER	Single Fan CV	27	27	27	0	14	0.521	1.00	0.00	1.00	1.00	1.00	0.776	
HR & MESSAGE CENTER		681	681	681	0	202							0.610	
System - 020		681	681	681	0	202							0.610	
105 CORRIDOR	Single Fan CV	97	97	97	0	69	0.703	1.00	0.00	1.00	1.00	1.00	0.625	*
112 SUPPLY ROOM	Single Fan CV	23	23	23	0	14	0.604	1.00	0.00	1.00	1.00	1.00	0.723	
113 LOGISTICS OPERATIONS OF	Single Fan CV	186	186	186	0	85	0.455	1.00	0.00	1.00	1.00	1.00	0.872	
114 INFORMATION MANAGEMEN	Single Fan CV	373	373	373	0	49	0.133	1.00	0.00	1.00	1.00	1.00	1.000	
124 CHAPLAIN OFFICE	Single Fan CV	50	50	50	0	20	0.391	1.00	0.00	1.00	1.00	1.00	0.937	
125 CHAPLAIN ASSISTANT OFFI	Single Fan CV	48	48	48	0	19	0.386	1.00	0.00	1.00	1.00	1.00	0.941	
CHAPLAIN & LOGISTICS OPS		778	778	778	0	255							0.625	
System - 021		778	778	778	0	255							0.625	
103 BREAK ROOM	Single Fan CV	632	632	632	0	71	0.113	1.00	0.00	1.00	1.00	1.00	1.000	
104 VENDING / RECYCLE AREA	Single Fan CV	69	69	69	0	27	0.390	1.00	0.00	1.00	1.00	1.00	0.760	*
BREAK ROOM		701	701	701	0	98							0.760	

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
System - 022		701	701	701	0	98							0.760	
102 DUTY AGENT OFFICE	Single Fan CV	41	41	41	0	15	0.362	1.00	0.00	1.00	1.00	1.00	1.000	
105A CORRIDOR	Single Fan CV	78	78	78	0	55	0.711	1.00	0.00	1.00	1.00	1.00	0.721	*
137 CBRN STAFF ROOM	Single Fan CV	52	52	52	0	21	0.400	1.00	0.00	1.00	1.00	1.00	1.000	
138 POLYGRAPH OFFICE W-2	Single Fan CV	66	66	66	0	21	0.321	1.00	0.00	1.00	1.00	1.00	1.000	
139 POLYGRAPH OFFICE W-3	Single Fan CV	75	75	75	0	26	0.346	1.00	0.00	1.00	1.00	1.00	1.000	
140 CORRIDOR	Single Fan CV	30	30	30	0	21	0.711	1.00	0.00	1.00	1.00	1.00	0.721	
141 OBSERVATION ROOM	Single Fan CV	44	44	44	0	9	0.216	1.00	0.00	1.00	1.00	1.00	1.000	
142 POLYGRAPH EXAM ROOM	Single Fan CV	66	66	66	0	21	0.323	1.00	0.00	1.00	1.00	1.00	1.000	
143 LOG SECURITY ROOM	Single Fan CV	52	52	52	0	21	0.401	1.00	0.00	1.00	1.00	1.00	1.000	
151A INTELLIGENCE SURVEILLA	Single Fan CV	64	64	64	0	34	0.534	1.00	0.00	1.00	1.00	1.00	0.898	
CORE SUSPECT AREA		569	569	569	0	246							0.721	
System - 023		569	569	569	0	246							0.721	
101 VISITOR WAITING AREA	Single Fan CV	121	121	121	0	48	0.398	1.00	0.00	1.00	1.00	1.00	1.000	*
VISITOR WAITING		121	121	121	0	48							1.000	
003 VESTIBULE NORTH	Single Fan CV	62	62	62	0	8	0.121	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		62	62	62	0	8							1.000	
System - 024		183	183	183	0	56							1.000	
002 VESTIBULE WEST	Single Fan CV	99	99	99	0	7	0.071	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		99	99	99	0	7							1.000	
System - 025		99	99	99	0	7							1.000	
001 ENTRY VESTIBULE	Single Fan CV	236	236	236	0	14	0.058	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		236	236	236	0	14							1.000	
System - 026		236	236	236	0	14							1.000	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
6 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
27 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
30 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
31 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
32 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
34 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
36 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
37 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
38 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
39 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
41 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
42 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
44 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
47 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
48 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
50 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
52 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
53 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
55 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
56 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
59 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
63 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
67 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
86 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
90 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
92 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
97 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
99 Space	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
130 JANITOR	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
164 TOILET	Single Fan CV	0	0	0	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
Default		0	0	0	0	0							1.000	
Default System		0	0	0	0	0							1.000	
158 CORRIDOR	Single Fan CV	68	68	68	0	49	0.720	1.00	0.00	1.00	1.00	1.00	0.482	*

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Ventilation Calculations for Heating Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
159 CLOSET	Single Fan CV	15	15	15	0	7	0.447	1.00	0.00	1.00	1.00	1.00	0.755	
160 COMMANDER OFFICE	Single Fan CV	319	319	319	0	35	0.108	1.00	0.00	1.00	1.00	1.00	1.000	
161 EXECUTIVE OFFICER OFFIC	Single Fan CV	184	184	184	0	28	0.152	1.00	0.00	1.00	1.00	1.00	1.000	
162 COMMAND SARGEANT MAJ(	Single Fan CV	182	182	182	0	28	0.152	1.00	0.00	1.00	1.00	1.00	1.000	
163 OFFICE SUPPORT TECH OFI	Single Fan CV	69	69	69	0	24	0.340	1.00	0.00	1.00	1.00	1.00	0.863	
SOUTHEAST OFFICES		837	837	837	0	170							0.482	
System - 002		837	837	837	0	170							0.482	
156 COMMAND CONFERENCE R(	Single Fan CV	568	568	568	0	68	0.121	1.00	0.00	1.00	1.00	1.00	1.000	
157 CLOSET	Single Fan CV	8	8	8	0	5	0.650	1.00	0.00	1.00	1.00	1.00	0.478	*
COMMAND CONF ROOM		576	576	576	0	74							0.478	
System - 003		576	576	576	0	74							0.478	
152 OPERATIONS NCO OFFICE	Single Fan CV	219	219	219	0	25	0.115	1.00	0.00	1.00	1.00	1.00	1.000	
153 FORENSICS OFFICE	Single Fan CV	155	155	155	0	23	0.151	1.00	0.00	1.00	1.00	1.00	1.000	
154 S-2 / S-3 OFFICE	Single Fan CV	174	174	174	0	35	0.198	1.00	0.00	1.00	1.00	1.00	0.953	*
EAST OFFICES		549	549	549	0	83							0.953	
System - 004		549	549	549	0	83							0.953	
149 SUPRESSION CRIMINAL INV(	Single Fan CV	53	53	53	0	21	0.399	1.00	0.00	1.00	1.00	1.00	1.000	
151 INTELLIGENCE SURVEILLAN	Single Fan CV	164	164	164	0	80	0.487	1.00	0.00	1.00	1.00	1.00	0.965	*
155 CRIMINAL INVESTIGATION C	Single Fan CV	53	53	53	0	21	0.399	1.00	0.00	1.00	1.00	1.00	1.000	
INTEL SURV & RECON 2		271	271	271	0	122							0.965	
System - 005		271	271	271	0	122							0.965	
148 CRIMINAL INTELLIGENCE OF	Single Fan CV	74	74	74	0	20	0.274	1.00	0.00	1.00	1.00	1.00	0.969	*
150 INTELLIGENCE SURVEILLAN	Single Fan CV	445	445	445	0	106	0.238	1.00	0.00	1.00	1.00	1.00	1.000	
INTEL SURV & RECON		519	519	519	0	126							0.969	
System - 006		519	519	519	0	126							0.969	
146 EVIDENCE DEPOSITORY RO	Single Fan CV	90	90	90	0	48	0.531	1.00	0.00	1.00	1.00	1.00	1.000	*
EVIDENCE DEPOSITORY		90	90	90	0	48							1.000	
System - 007		90	90	90	0	48							1.000	
144 GENERAL STORAGE ROOM	Single Fan CV	46	46	46	0	28	0.604	1.00	0.00	1.00	1.00	1.00	0.910	
145 EVIDENCE PROCESSING RC	Single Fan CV	67	67	67	0	26	0.390	1.00	0.00	1.00	1.00	1.00	1.000	
147 SECURE STORAGE ROOM	Single Fan CV	46	46	46	0	28	0.604	1.00	0.00	1.00	1.00	1.00	0.910	*
EVIDENCE PROCESSING		160	160	160	0	82							0.910	
System - 008		160	160	160	0	82							0.910	

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Ventilation Calculations for Heating Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
136 TELECOM ROOM	Single Fan CV	39	39	39	0	17	0.443	1.00	0.00	1.00	1.00	1.00	1.000	*
TELECOM ROOM 136		39	39	39	0	17							1.000	
System - 009		39	39	39	0	17							1.000	
131 CORRIDOR	Single Fan CV	87	87	87	0	56	0.643	1.00	0.00	1.00	1.00	1.00	0.902	*
132A WOMEN	Single Fan CV	66	66	66	0	32	0.486	1.00	0.00	1.00	1.00	1.00	1.000	
132B WOMEN SHOWERS	Single Fan CV	31	31	31	0	17	0.536	1.00	0.00	1.00	1.00	1.00	1.000	
133A MEN	Single Fan CV	66	66	66	0	32	0.486	1.00	0.00	1.00	1.00	1.00	1.000	
133B MEN SHOWERS	Single Fan CV	31	31	31	0	17	0.536	1.00	0.00	1.00	1.00	1.00	1.000	
RESTROOMS		280	280	280	0	153							0.902	
System - 010		280	280	280	0	153							0.902	
129 MECHANICAL ROOM	Single Fan CV	245	245	245	0	95	0.387	1.00	0.00	1.00	1.00	1.00	1.000	*
MECHANICAL ROOM		245	245	245	0	95							1.000	
System - 011		245	245	245	0	95							1.000	
128 ELECTRICAL ROOM	Single Fan CV	79	79	79	0	21	0.258	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		79	79	79	0	21							1.000	
System - 012		79	79	79	0	21							1.000	
127 TELECOM ROOM	Single Fan CV	40	40	40	0	18	0.439	1.00	0.00	1.00	1.00	1.00	1.000	*
TELECOM ROOM 127		40	40	40	0	18							1.000	
System - 013		40	40	40	0	18							1.000	
126A CLASSROOM	Single Fan CV	1,106	1,106	1,106	0	205	0.185	1.00	0.00	1.00	1.00	1.00	1.000	*
CLASSROOM		1,106	1,106	1,106	0	205							1.000	
System - 014		1,106	1,106	1,106	0	205							1.000	
123 COMPANY OPERATIONS FA(	Single Fan CV	411	411	411	0	169	0.411	1.00	0.00	1.00	1.00	1.00	1.000	*
COF AREA		411	411	411	0	169							1.000	
System - 015		411	411	411	0	169							1.000	
120 ARMS VAULT	Single Fan CV	50	50	50	0	20	0.389	1.00	0.00	1.00	1.00	1.00	0.941	
121 TABLE OF ORGANIZATION A	Single Fan CV	181	181	181	0	52	0.286	1.00	0.00	1.00	1.00	1.00	1.000	
122 SUPPLY ROOM	Single Fan CV	136	136	136	0	42	0.306	1.00	0.00	1.00	1.00	1.00	1.000	
126B CLASSROOM STORAGE RC	Single Fan CV	48	48	48	0	24	0.509	1.00	0.00	1.00	1.00	1.00	0.822	*
NORTHWEST STORAGE		416	416	416	0	137							0.822	
System - 016		416	416	416	0	137							0.822	
116 INFORMATION MANAGEMEN	Single Fan CV	158	158	158	0	21	0.135	1.00	0.00	1.00	1.00	1.00	1.000	
117 SUPPLY ROOM	Single Fan CV	52	52	52	0	23	0.455	1.00	0.00	1.00	1.00	1.00	0.695	*

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
118 COMMANDER OFFICE	Single Fan CV	290	290	290	0	30	0.102	1.00	0.00	1.00	1.00	1.00	1.000	
119 SARGEANT OFFICE	Single Fan CV	134	134	134	0	20	0.146	1.00	0.00	1.00	1.00	1.00	1.000	
WEST OFFICES		634	634	634	0	94							0.695	
System - 017		634	634	634	0	94							0.695	
110 SUPPLY MANAGER OFFICE	Single Fan CV	146	146	146	0	20	0.140	1.00	0.00	1.00	1.00	1.00	1.000	
111 LOGISTICS OPERATIONS MA	Single Fan CV	171	171	171	0	21	0.124	1.00	0.00	1.00	1.00	1.00	1.000	
114A INFORMATION MANAGEME	Single Fan CV	69	69	69	0	31	0.447	1.00	0.00	1.00	1.00	1.00	0.708	*
115 SECTION CHIEF OFFICE	Single Fan CV	219	219	219	0	21	0.098	1.00	0.00	1.00	1.00	1.00	1.000	
SOUTHWEST OFFICES		605	605	605	0	94							0.708	
System - 018		605	605	605	0	94							0.708	
106A HUMAN RESOURCES AREA	Single Fan CV	454	454	454	0	40	0.088	1.00	0.00	1.00	1.00	1.00	1.000	
107 HUMAN RESOURCES S-1 OF	Single Fan CV	159	159	159	0	20	0.128	1.00	0.00	1.00	1.00	1.00	1.000	*
108 SENIOR HR SARGEANT OFF	Single Fan CV	178	178	178	0	20	0.114	1.00	0.00	1.00	1.00	1.00	1.000	
109 SENIOR MAINTENANCE SUP	Single Fan CV	178	178	178	0	20	0.114	1.00	0.00	1.00	1.00	1.00	1.000	
SOUTH OFFICES		969	969	969	0	101							1.000	
System - 019		969	969	969	0	101							1.000	
105B CORRIDOR	Single Fan CV	81	81	81	0	56	0.687	1.00	0.00	1.00	1.00	1.00	0.610	*
106 HUMAN RESOURCES AREA	Single Fan CV	563	563	563	0	126	0.224	1.00	0.00	1.00	1.00	1.00	1.000	
134 CLOSET	Single Fan CV	10	10	10	0	6	0.592	1.00	0.00	1.00	1.00	1.00	0.704	
135 MESSAGE CENTER	Single Fan CV	27	27	27	0	14	0.521	1.00	0.00	1.00	1.00	1.00	0.776	
HR & MESSAGE CENTER		681	681	681	0	202							0.610	
System - 020		681	681	681	0	202							0.610	
105 CORRIDOR	Single Fan CV	97	97	97	0	69	0.703	1.00	0.00	1.00	1.00	1.00	0.625	*
112 SUPPLY ROOM	Single Fan CV	23	23	23	0	14	0.604	1.00	0.00	1.00	1.00	1.00	0.723	
113 LOGISTICS OPERATIONS OF	Single Fan CV	186	186	186	0	85	0.455	1.00	0.00	1.00	1.00	1.00	0.872	
114 INFORMATION MANAGEMEN	Single Fan CV	373	373	373	0	49	0.133	1.00	0.00	1.00	1.00	1.00	1.000	
124 CHAPLAIN OFFICE	Single Fan CV	50	50	50	0	20	0.391	1.00	0.00	1.00	1.00	1.00	0.937	
125 CHAPLAIN ASSISTANT OFFI	Single Fan CV	48	48	48	0	19	0.386	1.00	0.00	1.00	1.00	1.00	0.941	
CHAPLAIN & LOGISTICS OPS		778	778	778	0	255							0.625	
System - 021		778	778	778	0	255							0.625	
103 BREAK ROOM	Single Fan CV	632	632	632	0	71	0.113	1.00	0.00	1.00	1.00	1.00	1.000	
104 VENDING / RECYCLE AREA	Single Fan CV	69	69	69	0	27	0.390	1.00	0.00	1.00	1.00	1.00	0.760	*
BREAK ROOM		701	701	701	0	98							0.760	

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Ventilation Calculations for Heating Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 1														
System - 022		701	701	701	0	98							0.760	
102 DUTY AGENT OFFICE	Single Fan CV	41	41	41	0	15	0.362	1.00	0.00	1.00	1.00	1.00	1.000	
105A CORRIDOR	Single Fan CV	78	78	78	0	55	0.711	1.00	0.00	1.00	1.00	1.00	0.721	*
137 CBRN STAFF ROOM	Single Fan CV	52	52	52	0	21	0.400	1.00	0.00	1.00	1.00	1.00	1.000	
138 POLYGRAPH OFFICE W-2	Single Fan CV	66	66	66	0	21	0.321	1.00	0.00	1.00	1.00	1.00	1.000	
139 POLYGRAPH OFFICE W-3	Single Fan CV	75	75	75	0	26	0.346	1.00	0.00	1.00	1.00	1.00	1.000	
140 CORRIDOR	Single Fan CV	30	30	30	0	21	0.711	1.00	0.00	1.00	1.00	1.00	0.721	
141 OBSERVATION ROOM	Single Fan CV	44	44	44	0	9	0.216	1.00	0.00	1.00	1.00	1.00	1.000	
142 POLYGRAPH EXAM ROOM	Single Fan CV	66	66	66	0	21	0.323	1.00	0.00	1.00	1.00	1.00	1.000	
143 LOG SECURITY ROOM	Single Fan CV	52	52	52	0	21	0.401	1.00	0.00	1.00	1.00	1.00	1.000	
151A INTELLIGENCE SURVEILLA	Single Fan CV	64	64	64	0	34	0.534	1.00	0.00	1.00	1.00	1.00	0.898	
CORE SUSPECT AREA		569	569	569	0	246							0.721	
System - 023		569	569	569	0	246							0.721	
101 VISITOR WAITING AREA	Single Fan CV	121	121	121	0	48	0.398	1.00	0.00	1.00	1.00	1.00	1.000	*
VISITOR WAITING		121	121	121	0	48							1.000	
003 VESTIBULE NORTH	Single Fan CV	62	62	62	0	8	0.121	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		62	62	62	0	8							1.000	
System - 024		183	183	183	0	56							1.000	
002 VESTIBULE WEST	Single Fan CV	99	99	99	0	7	0.071	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		99	99	99	0	7							1.000	
System - 025		99	99	99	0	7							1.000	
001 ENTRY VESTIBULE	Single Fan CV	236	236	236	0	14	0.058	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		236	236	236	0	14							1.000	
System - 026		236	236	236	0	14							1.000	

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System Ventilation Requirements

AHU Location	Description		∑ Vpz cfm	Ps People	∑ Pz People	D Ps / ∑ Pz	Vou cfm	Vps cfm	Xs	Ev	Vot cfm	%OA Vot / Vps
Alternative 2												
System	Primary - VAV w/ BB	Cooling	5,183	138	138	1.00	1,440	4,907	0.294	0.694	2,077	42.3
		Heating	0	0	0	0.00	0	0	0.000	0.000	0	0.0
System	Secondary - VAV w/ BB	Cooling	1,014	13	13	1.00	278	932	0.298	0.698	398	42.7
		Heating	0	0	0	0.00	0	0	0.000	0.000	0	0.0
Zone	DUMMY	Cooling	0	0	0	0.00	0	0	0.000	0.000	0	0.0
		Heating	0	0	0	0.00	0	0	0.000	0.000	0	0.0
Zone	CUHs - Vestibules	Cooling	210	0	0	1.00	0	210	0.000	1.000	0	0.0
		Heating	210	0	0	1.00	0	210	0.000	1.000	0	0.0
Zone	FCU - Elec	Cooling	38	0	0	1.00	7	38	0.173	1.000	7	17.3
		Heating	38	0	0	1.00	7	38	0.173	1.000	7	17.3
Room	FCU - Evid Dep	Cooling	61	0	0	1.00	31	61	0.507	1.000	31	50.7
		Heating	61	0	0	1.00	31	61	0.507	1.000	31	50.7
Room	FCU - TR#1	Cooling	22	0	0	1.00	6	22	0.256	1.000	6	25.6
		Heating	22	0	0	1.00	6	22	0.256	1.000	6	25.6
Room	FCU - TR#2	Cooling	22	0	0	1.00	6	22	0.255	1.000	6	25.5
		Heating	22	0	0	1.00	6	22	0.255	1.000	6	25.5
Zone	FCU - Mech	Cooling	155	0	0	1.00	31	155	0.199	1.000	31	19.9
		Heating	155	0	0	1.00	31	155	0.199	1.000	31	19.9

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 2									
101 VISITOR WAITING AREA	5.00	4.00	0.06	260	36	1.00	36	0.00	0
VISITOR WAITING	5.00	4.00	0.06	260	36		36		0
102 DUTY AGENT OFFICE	5.00	1.00	0.06	80	10	1.00	10	0.00	0
105A CORRIDOR	0.00	0.00	0.06	299	18	1.00	18	0.00	0
137 CBRN STAFF ROOM	5.00	1.00	0.06	113	12	1.00	12	0.00	0
138 POLYGRAPH OFFICE W-2	5.00	2.00	0.06	114	17	1.00	17	0.00	0
139 POLYGRAPH OFFICE W-3	5.00	2.00	0.06	140	18	1.00	18	0.00	0
140 CORRIDOR	0.00	0.00	0.06	116	7	1.00	7	0.00	0
141 OBSERVATION ROOM	5.00	2.00	0.06	51	13	1.00	13	0.00	0
142 POLYGRAPH EXAM ROOM	5.00	2.00	0.06	116	17	1.00	17	0.00	0
143 LOG SECURITY ROOM	5.00	1.00	0.06	114	12	1.00	12	0.00	0
151A INTELLIGENCE SURVEILLANCE - RECON	5.00	0.00	0.06	186	11	1.00	11	0.00	0
CORE SUSPECT AREA	5.00	11.00	0.06	1,329	135		135		0
103 BREAK ROOM	5.00	24.00	0.06	386	143	1.00	143	0.00	0
104 VENDING / RECYCLE AREA	0.00	0.00	0.00	146	0	1.00	0	0.00	0
BREAK ROOM	5.00	24.00	0.04	532	143		143		0
105 CORRIDOR	0.00	0.00	0.06	370	22	1.00	22	0.00	0
112 SUPPLY ROOM	0.00	0.00	0.12	75	9	1.00	9	0.00	0
113 LOGISTICS OPERATIONS OPEN AREA S-4	5.00	2.00	0.06	458	38	1.00	38	0.00	0
114 INFORMATION MANAGEMENT AREA S-6	5.00	2.00	0.06	267	26	1.00	26	0.00	0
124 CHAPLAIN OFFICE	5.00	1.00	0.06	106	11	1.00	11	0.00	0
125 CHAPLAIN ASSISTANT OFFICE	5.00	1.00	0.06	101	11	1.00	11	0.00	0
CHAPLAIN & LOGISTICS OPS	5.00	6.00	0.06	1,378	117		117		0
105B CORRIDOR	0.00	0.00	0.06	300	18	1.00	18	0.00	0
106 HUMAN RESOURCES AREA S-1	5.00	4.00	0.06	682	61	1.00	61	0.00	0
134 CLOSET	0.00	0.00	0.12	33	4	1.00	4	0.00	0
135 MESSAGE CENTER	5.00	0.00	0.06	76	5	1.00	5	0.00	0
HR & MESSAGE CENTER	5.00	4.00	0.06	1,091	87		87		0
106A HUMAN RESOURCES AREA S-1	5.00	2.00	0.06	215	23	1.00	23	0.00	0
107 HUMAN RESOURCES S-1 OFFICER OFFICI	5.00	1.00	0.06	110	12	1.00	12	0.00	0
108 SENIOR HR SARGEANT OFFICE	5.00	1.00	0.06	110	12	1.00	12	0.00	0

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 2									
109 SENIOR MAINTENANCE SUPERVISOR OFF	5.00	1.00	0.06	110	12	1.00	12	0.00	0
SOUTH OFFICES	5.00	5.00	0.06	546	58		58		0
126A CLASSROOM	7.50	50.00	0.06	1,106	441	1.00	441	0.00	0
CLASSROOM	7.50	50.00	0.06	1,106	441		441		0
131 CORRIDOR	0.00	0.00	0.06	301	18	1.00	18	0.00	0
132A WOMEN	0.00	0.00	0.00	173	0	1.00	0	0.00	0
132B WOMEN SHOWERS	0.00	0.00	0.00	90	0	1.00	0	0.00	0
133A MEN	0.00	0.00	0.00	174	0	1.00	0	0.00	0
133B MEN SHOWERS	0.00	0.00	0.00	89	0	1.00	0	0.00	0
130 JANITOR	0.00	0.12	0.00	36	0	1.00	0	0.00	0
RESTROOMS	0.00	0.12	0.02	863	18		18		0
144 GENERAL STORAGE ROOM	0.00	0.00	0.12	151	18	1.00	18	0.00	0
145 EVIDENCE PROCESSING ROOM	5.00	1.00	0.06	142	13	1.00	13	0.00	0
147 SECURE STORAGE ROOM	0.00	0.00	0.12	151	18	1.00	18	0.00	0
EVIDENCE PROCESSING	5.00	1.00	0.10	444	50		50		0
148 CRIMINAL INTELLIGENCE OFFICE	5.00	1.00	0.06	109	12	1.00	12	0.00	0
150 INTELLIGENCE SURVEILLANCE - RECONN	5.00	4.00	0.06	573	54	1.00	54	0.00	0
INTEL SURV & RECON	5.00	5.00	0.06	682	66		66		0
149 SUPRESSION CRIMINAL INVESTIGATOR C	5.00	1.00	0.06	115	12	1.00	12	0.00	0
151 INTELLIGENCE SURVEILLANCE - RECONN	5.00	1.00	0.06	431	31	1.00	31	0.00	0
155 CRIMINAL INVESTIGATION COMMAND OPI	5.00	1.00	0.06	115	12	1.00	12	0.00	0
INTEL SURV & RECON 2	5.00	3.00	0.06	662	55		55		0
152 OPERATIONS NCO OFFICE	5.00	1.00	0.06	136	13	1.00	13	0.00	0
153 FORENSICS OFFICE	5.00	1.00	0.06	126	13	1.00	13	0.00	0
154 S-2 / S-3 OFFICE	5.00	1.00	0.06	187	16	1.00	16	0.00	0
EAST OFFICES	5.00	3.00	0.06	449	42		42		0
156 COMMAND CONFERENCE ROOM	5.00	18.00	0.06	370	112	1.00	112	0.00	0
157 CLOSET	0.00	0.00	0.12	28	3	1.00	3	0.00	0
COMMAND CONF ROOM	5.00	18.00	0.06	398	116		116		0
158 CORRIDOR	0.00	0.00	0.06	265	16	1.00	16	0.00	0
159 CLOSET	0.00	0.00	0.12	37	4	1.00	4	0.00	0

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 2									
160 COMMANDER OFFICE	5.00	1.00	0.06	187	16	1.00	16	0.00	0
161 EXECUTIVE OFFICER OFFICE	5.00	1.00	0.06	151	14	1.00	14	0.00	0
162 COMMAND SARGEANT MAJOR OFFICE	5.00	1.00	0.06	150	14	1.00	14	0.00	0
163 OFFICE SUPPORT TECH OFFICE	5.00	1.00	0.06	128	13	1.00	13	0.00	0
164 TOILET	0.00	0.26	0.00	81	0	1.00	0	0.00	0
SOUTHEAST OFFICES	4.69	4.26	0.06	998	77		77		0
Primary - VAV w/ BB	5.89	138.38	0.06	10,737	1,440		1,440		0
123 COMPANY OPERATIONS FACILITY AREA	5.00	7.00	0.06	915	90	1.00	90	0.00	0
COF AREA	5.00	7.00	0.06	915	90		90		0
116 INFORMATION MANAGEMENT S-6 OFFICE	5.00	1.00	0.06	115	12	1.00	12	0.00	0
117 SUPPLY ROOM	0.00	0.00	0.12	127	15	1.00	15	0.00	0
118 COMMANDER OFFICE	5.00	1.00	0.06	160	15	1.00	15	0.00	0
119 SARGEANT OFFICE	5.00	1.00	0.06	106	11	1.00	11	0.00	0
WEST OFFICES	5.00	3.00	0.07	508	53		53		0
120 ARMS VAULT	0.00	0.00	0.12	106	13	1.00	13	0.00	0
121 TABLE OF ORGANIZATION AND EQUIPMEI	0.00	0.00	0.12	280	34	1.00	34	0.00	0
122 SUPPLY ROOM	0.00	0.00	0.12	225	27	1.00	27	0.00	0
126B CLASSROOM STORAGE ROOM	0.00	0.00	0.12	131	16	1.00	16	0.00	0
NORTHWEST STORAGE	0.00	0.00	0.12	743	89		89		0
110 SUPPLY MANAGER OFFICE	5.00	0.00	0.06	110	7	1.00	7	0.00	0
111 LOGISTICS OPERATIONS MANAGER S-4 C	5.00	1.00	0.06	115	12	1.00	12	0.00	0
114A INFORMATION MANAGEMENT AREA S-6	5.00	1.00	0.06	167	15	1.00	15	0.00	0
115 SECTION CHIEF OFFICE	5.00	1.00	0.06	116	12	1.00	12	0.00	0
SOUTHWEST OFFICES	5.00	3.00	0.06	508	45		45		0
Secondary - VAV w/ BB	5.00	13.00	0.08	2,674	278		278		0
Default	0.00	0.00	0.00	0	0		0		0
DUMMY	0.00	0.00	0.00	0	0		0		0
001 ENTRY VESTIBULE	0.00	0.00	0.00	74	0	1.00	0	1.00	0
ENTRY VESTIBULE	0.00	0.00	0.00	74	0		0		0
002 VESTIBULE WEST	0.00	0.00	0.00	38	0	1.00	0	1.00	0
VESTIBULE WEST	0.00	0.00	0.00	38	0		0		0

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 2									
003 VESTIBULE NORTH	0.00	0.00	0.00	41	0	1.00	0	1.00	0
VESTIBULE NORTH	0.00	0.00	0.00	41	0		0		0
CUHs - Vestibules	0.00	0.00	0.00	153	0		0		0
128 ELECTRICAL ROOM	0.00	0.00	0.06	111	7	1.00	7	1.00	7
ELECTRICAL ROOM	0.00	0.00	0.06	111	7		7		7
FCU - Elec	0.00	0.00	0.06	111	7		7		7
146 EVIDENCE DEPOSITORY ROOM	0.00	0.00	0.12	259	31	1.00	31	1.00	31
EVIDENCE DEPOSITORY	0.00	0.00	0.12	259	31		31		31
FCU - Evid Dep	0.00	0.00	0.12	259	31		31		31
127 TELECOM ROOM	0.00	0.00	0.06	95	6	1.00	6	1.00	6
TELECOM ROOM 127	0.00	0.00	0.06	95	6		6		6
FCU - TR#1	0.00	0.00	0.06	95	6		6		6
136 TELECOM ROOM	0.00	0.00	0.06	93	6	1.00	6	1.00	6
TELECOM ROOM 136	0.00	0.00	0.06	93	6		6		6
FCU - TR#2	0.00	0.00	0.06	93	6		6		6
129 MECHANICAL ROOM	0.00	0.00	0.06	513	31	1.00	31	1.00	31
MECHANICAL ROOM	0.00	0.00	0.06	513	31		31		31
FCU - Mech	0.00	0.00	0.06	513	31		31		31

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 2														
101 VISITOR WAITING AREA	Shutoff VAV	124	124	124	59	36	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
VISITOR WAITING		124	124	124	59	36							0.694	
102 DUTY AGENT OFFICE	Shutoff VAV	32	32	32	16	10	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
105A CORRIDOR	Shutoff VAV	45	45	45	30	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
137 CBRN STAFF ROOM	Shutoff VAV	46	46	46	20	12	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
138 POLYGRAPH OFFICE W-2	Shutoff VAV	58	58	58	28	17	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
139 POLYGRAPH OFFICE W-3	Shutoff VAV	62	62	62	31	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
140 CORRIDOR	Shutoff VAV	24	24	24	12	7	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
141 OBSERVATION ROOM	Shutoff VAV	41	41	41	22	13	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
142 POLYGRAPH EXAM ROOM	Shutoff VAV	59	59	59	28	17	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
143 LOG SECURITY ROOM	Shutoff VAV	47	47	47	20	12	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
151A INTELLIGENCE SURVEILLA	Shutoff VAV	40	40	40	19	11	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
CORE SUSPECT AREA		455	455	455	225	135							0.694	
103 BREAK ROOM	Shutoff VAV	449	449	449	239	143	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
104 VENDING / RECYCLE AREA	Shutoff VAV	75	75	75	22	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
BREAK ROOM		523	523	523	261	143							0.694	
105 CORRIDOR	Shutoff VAV	99	99	99	37	22	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
112 SUPPLY ROOM	Shutoff VAV	20	20	20	15	9	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
113 LOGISTICS OPERATIONS OF	Shutoff VAV	135	135	135	63	38	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
114 INFORMATION MANAGEMEN	Shutoff VAV	194	194	194	58	26	0.447	1.00	0.00	1.00	1.00	1.00	0.847	
124 CHAPLAIN OFFICE	Shutoff VAV	45	45	45	19	11	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
125 CHAPLAIN ASSISTANT OFFI	Shutoff VAV	36	36	36	18	11	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
CHAPLAIN & LOGISTICS OPS		529	529	529	210	117							0.694	
105B CORRIDOR	Shutoff VAV	45	45	45	30	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
106 HUMAN RESOURCES AREA	Shutoff VAV	283	283	283	102	61	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
134 CLOSET	Shutoff VAV	7	7	7	7	4	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
135 MESSAGE CENTER	Shutoff VAV	20	20	20	8	5	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
HR & MESSAGE CENTER		355	355	355	146	87							0.694	
106A HUMAN RESOURCES AREA	Shutoff VAV	98	98	98	38	23	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
107 HUMAN RESOURCES S-1 OF	Shutoff VAV	78	78	78	24	12	0.494	1.00	0.00	1.00	1.00	1.00	0.799	
108 SENIOR HR SARGEANT OFF	Shutoff VAV	84	84	84	25	12	0.458	1.00	0.00	1.00	1.00	1.00	0.835	
109 SENIOR MAINTENANCE SUF	Shutoff VAV	84	84	84	25	12	0.459	1.00	0.00	1.00	1.00	1.00	0.835	
SOUTH OFFICES		345	345	345	112	58							0.694	

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 2														
126A CLASSROOM	Shutoff VAV	899	899	899	736	441	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
CLASSROOM		899	899	899	736	441							0.694	
131 CORRIDOR	Shutoff VAV	59	59	59	30	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
132A WOMEN	Shutoff VAV	40	40	40	12	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
132B WOMEN SHOWERS	Shutoff VAV	22	22	22	7	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
133A MEN	Shutoff VAV	40	40	40	12	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
133B MEN SHOWERS	Shutoff VAV	22	22	22	7	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
130 JANITOR	Shutoff VAV	10	10	10	3	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
RESTROOMS		194	194	194	71	18							0.694	
144 GENERAL STORAGE ROOM	Shutoff VAV	50	50	50	30	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
145 EVIDENCE PROCESSING RC	Shutoff VAV	51	51	51	22	13	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
147 SECURE STORAGE ROOM	Shutoff VAV	56	56	56	30	18	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
EVIDENCE PROCESSING		157	157	157	83	50							0.694	
148 CRIMINAL INTELLIGENCE OI	Shutoff VAV	55	55	55	19	12	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
150 INTELLIGENCE SURVEILLAN	Shutoff VAV	270	270	270	91	54	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
INTEL SURV & RECON		325	325	325	110	66							0.694	
149 SUPRESSION CRIMINAL INV	Shutoff VAV	46	46	46	20	12	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
151 INTELLIGENCE SURVEILLAN	Shutoff VAV	90	90	90	51	31	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
155 CRIMINAL INVESTIGATION C	Shutoff VAV	38	38	38	20	12	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
INTEL SURV & RECON 2		173	173	173	91	55							0.694	
152 OPERATIONS NCO OFFICE	Shutoff VAV	84	84	84	25	13	0.523	1.00	0.00	1.00	1.00	1.00	0.771	
153 FORENSICS OFFICE	Shutoff VAV	79	79	79	24	13	0.531	1.00	0.00	1.00	1.00	1.00	0.762	
154 S-2 / S-3 OFFICE	Shutoff VAV	96	96	96	29	16	0.563	1.00	0.00	1.00	1.00	1.00	0.731	
EAST OFFICES		259	259	259	78	42							0.731	
156 COMMAND CONFERENCE R	Shutoff VAV	372	372	372	187	112	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
157 CLOSET	Shutoff VAV	6	6	6	6	3	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
COMMAND CONF ROOM		377	377	377	193	116							0.694	
158 CORRIDOR	Shutoff VAV	51	51	51	27	16	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
159 CLOSET	Shutoff VAV	10	10	10	7	4	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*
160 COMMANDER OFFICE	Shutoff VAV	141	141	141	42	16	0.384	1.00	0.00	1.00	1.00	1.00	0.909	
161 EXECUTIVE OFFICER OFFIC	Shutoff VAV	95	95	95	28	14	0.494	1.00	0.00	1.00	1.00	1.00	0.800	
162 COMMAND SARGEANT MAJ(	Shutoff VAV	95	95	95	28	14	0.493	1.00	0.00	1.00	1.00	1.00	0.801	
163 OFFICE SUPPORT TECH OF	Shutoff VAV	43	43	43	21	13	0.600	1.00	0.00	1.00	1.00	1.00	0.694	*

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 2														
164 TOILET	Shutoff VAV	33	33	33	10	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	
SOUTHEAST OFFICES		467	467	467	164	77							0.694	
Primary - VAV w/ BB		5,183	4,907	5,183	2,537	1,440							0.694	
123 COMPANY OPERATIONS FA	Shutoff VAV	229	229	229	150	90	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
COF AREA		229	229	229	150	90							0.698	
116 INFORMATION MANAGEMEN	Shutoff VAV	73	73	73	22	12	0.541	1.00	0.00	1.00	1.00	1.00	0.757	
117 SUPPLY ROOM	Shutoff VAV	37	37	37	25	15	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
118 COMMANDER OFFICE	Shutoff VAV	102	102	102	31	15	0.476	1.00	0.00	1.00	1.00	1.00	0.822	
119 SARGEANT OFFICE	Shutoff VAV	66	66	66	20	11	0.574	1.00	0.00	1.00	1.00	1.00	0.724	
WEST OFFICES		279	279	279	98	53							0.698	
120 ARMS VAULT	Shutoff VAV	25	25	25	21	13	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
121 TABLE OF ORGANIZATION A	Shutoff VAV	85	85	85	56	34	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
122 SUPPLY ROOM	Shutoff VAV	76	76	76	45	27	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
126B CLASSROOM STORAGE R(	Shutoff VAV	35	35	35	26	16	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
NORTHWEST STORAGE		221	221	221	149	89							0.698	
110 SUPPLY MANAGER OFFICE	Shutoff VAV	60	60	60	18	7	0.366	1.00	0.00	1.00	1.00	1.00	0.932	
111 LOGISTICS OPERATIONS M/	Shutoff VAV	75	75	75	22	12	0.532	1.00	0.00	1.00	1.00	1.00	0.766	
114A INFORMATION MANAGEME	Shutoff VAV	57	57	57	25	15	0.600	1.00	0.00	1.00	1.00	1.00	0.698	*
115 SECTION CHIEF OFFICE	Shutoff VAV	94	94	94	28	12	0.426	1.00	0.00	1.00	1.00	1.00	0.872	
SOUTHWEST OFFICES		285	285	285	94	45							0.698	
Secondary - VAV w/ BB		1,014	932	1,014	490	278							0.698	
Default		0	0	0	0	0							0.000	
DUMMY		0	0	0	0	0							0.000	
001 ENTRY VESTIBULE	Single Fan CV	136	136	136	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		136	136	136	0	0							1.000	
002 VESTIBULE WEST	Single Fan CV	55	55	55	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		55	55	55	0	0							1.000	
003 VESTIBULE NORTH	Single Fan CV	18	18	18	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		18	18	18	0	0							1.000	
CUHs - Vestibules		210	210	210	0	0							1.000	
128 ELECTRICAL ROOM	Single Fan CV	38	38	38	0	7	0.173	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		38	38	38	0	7							1.000	
FCU - Elec		38	38	38	0	7							1.000	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 2														
146 EVIDENCE DEPOSITORY RC	Single Fan CV	61	61	61	0	31	0.507	1.00	0.00	1.00	1.00	1.00	0.000	
EVIDENCE DEPOSITORY		61	61	61	0	31							1.000	
FCU - Evid Dep		61	61	61	0	31							1.000	
127 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.256	1.00	0.00	1.00	1.00	1.00	0.000	
TELECOM ROOM 127		22	22	22	0	6							1.000	
FCU - TR#1		22	22	22	0	6							1.000	
136 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.255	1.00	0.00	1.00	1.00	1.00	0.000	
TELECOM ROOM 136		22	22	22	0	6							1.000	
FCU - TR#2		22	22	22	0	6							1.000	
129 MECHANICAL ROOM	Single Fan CV	155	155	155	0	31	0.199	1.00	0.00	1.00	1.00	1.00	1.000	*
MECHANICAL ROOM		155	155	155	0	31							1.000	
FCU - Mech		155	155	155	0	31							1.000	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz
Alternative 2													
101 VISITOR WAITING AREA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
VISITOR WAITING		0	0	0	0	0							0.000
102 DUTY AGENT OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
105A CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
137 CBRN STAFF ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
138 POLYGRAPH OFFICE W-2	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
139 POLYGRAPH OFFICE W-3	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
140 CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
141 OBSERVATION ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
142 POLYGRAPH EXAM ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
143 LOG SECURITY ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
151A INTELLIGENCE SURVEILLA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
CORE SUSPECT AREA		0	0	0	0	0							0.000
103 BREAK ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
104 VENDING / RECYCLE AREA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
BREAK ROOM		0	0	0	0	0							0.000
105 CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
112 SUPPLY ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
113 LOGISTICS OPERATIONS OF	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
114 INFORMATION MANAGEMEN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
124 CHAPLAIN OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
125 CHAPLAIN ASSISTANT OFFI(	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
CHAPLAIN & LOGISTICS OPS		0	0	0	0	0							0.000
105B CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
106 HUMAN RESOURCES AREA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
134 CLOSET	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
135 MESSAGE CENTER	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
HR & MESSAGE CENTER		0	0	0	0	0							0.000
106A HUMAN RESOURCES AREA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
107 HUMAN RESOURCES S-1 OF	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
108 SENIOR HR SARGEANT OFF	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
109 SENIOR MAINTENANCE SUP	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
SOUTH OFFICES		0	0	0	0	0							0.000

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz
Alternative 2													
126A CLASSROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
CLASSROOM		0	0	0	0	0							0.000
131 CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
132A WOMEN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
132B WOMEN SHOWERS	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
133A MEN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
133B MEN SHOWERS	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
130 JANITOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
RESTROOMS		0	0	0	0	0							0.000
144 GENERAL STORAGE ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
145 EVIDENCE PROCESSING RC	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
147 SECURE STORAGE ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
EVIDENCE PROCESSING		0	0	0	0	0							0.000
148 CRIMINAL INTELLIGENCE OF	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
150 INTELLIGENCE SURVEILLAN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
INTEL SURV & RECON		0	0	0	0	0							0.000
149 SUPRESSION CRIMINAL INV	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
151 INTELLIGENCE SURVEILLAN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
155 CRIMINAL INVESTIGATION C	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
INTEL SURV & RECON 2		0	0	0	0	0							0.000
152 OPERATIONS NCO OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
153 FORENSICS OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
154 S-2 / S-3 OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
EAST OFFICES		0	0	0	0	0							0.000
156 COMMAND CONFERENCE R	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
157 CLOSET	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
COMMAND CONF ROOM		0	0	0	0	0							0.000
158 CORRIDOR	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
159 CLOSET	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
160 COMMANDER OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
161 EXECUTIVE OFFICER OFFIC	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
162 COMMAND SARGEANT MAJ(	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000
163 OFFICE SUPPORT TECH OFI	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 2														
164 TOILET	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
SOUTHEAST OFFICES		0	0	0	0	0							0.000	
Primary - VAV w/ BB		0	0	0	0	0							0.000	
123 COMPANY OPERATIONS FA(	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
COF AREA		0	0	0	0	0							0.000	
116 INFORMATION MANAGEMEN	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
117 SUPPLY ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
118 COMMANDER OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
119 SARGEANT OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
WEST OFFICES		0	0	0	0	0							0.000	
120 ARMS VAULT	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
121 TABLE OF ORGANIZATION A	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
122 SUPPLY ROOM	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
126B CLASSROOM STORAGE RC	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
NORTHWEST STORAGE		0	0	0	0	0							0.000	
110 SUPPLY MANAGER OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
111 LOGISTICS OPERATIONS MA	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
114A INFORMATION MANAGEME	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
115 SECTION CHIEF OFFICE	Induction	0	0	0	0	0	0.000	0.00	0.00	0.00	0.00	0.00	0.000	
SOUTHWEST OFFICES		0	0	0	0	0							0.000	
Secondary - VAV w/ BB		0	0	0	0	0							0.000	
Default		0	0	0	0	0							0.000	
DUMMY		0	0	0	0	0							0.000	
001 ENTRY VESTIBULE	Single Fan CV	136	136	136	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		136	136	136	0	0							1.000	
002 VESTIBULE WEST	Single Fan CV	55	55	55	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		55	55	55	0	0							1.000	
003 VESTIBULE NORTH	Single Fan CV	18	18	18	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		18	18	18	0	0							1.000	
CUHs - Vestibules		210	210	210	0	0							1.000	
128 ELECTRICAL ROOM	Single Fan CV	38	38	38	0	7	0.173	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		38	38	38	0	7							1.000	
FCU - Elec		38	38	38	0	7							1.000	

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Alternative 2													
146 EVIDENCE DEPOSITORY RO	Single Fan CV	61	61	61	0	31	0.507	1.00	0.00	1.00	1.00	1.00	0.000
EVIDENCE DEPOSITORY		61	61	61	0	31							1.000
FCU - Evid Dep		61	61	61	0	31							1.000
127 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.256	1.00	0.00	1.00	1.00	1.00	0.000
TELECOM ROOM 127		22	22	22	0	6							1.000
FCU - TR#1		22	22	22	0	6							1.000
136 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.255	1.00	0.00	1.00	1.00	1.00	0.000
TELECOM ROOM 136		22	22	22	0	6							1.000
FCU - TR#2		22	22	22	0	6							1.000
129 MECHANICAL ROOM	Single Fan CV	155	155	155	0	31	0.199	1.00	0.00	1.00	1.00	1.00	1.000 *
MECHANICAL ROOM		155	155	155	0	31							1.000
FCU - Mech		155	155	155	0	31							1.000

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System Ventilation Requirements

AHU Location	Description		∑ Vpz cfm	Ps People	∑ Pz People	D Ps / ∑ Pz	Vou cfm	Vps cfm	Xs	Ev	Vot cfm	%OA Vot / Vps
Alternative 3												
System	Primary - FPTU w/ Reheat	Cooling	5,431	145	145	1.00	1,530	5,146	0.297	0.297	5,146	100.0
		Heating	1,853	145	145	1.00	1,530	1,853	0.826	0.826	1,853	100.0
System	Secondary - FPTU w/ Reheat	Cooling	789	6	6	1.00	188	715	0.263	0.263	715	100.0
		Heating	263	6	6	1.00	188	263	0.713	0.713	263	100.0
Zone	DUMMY	Cooling	0	0	0	0.00	0	0	0.000	0.000	0	0.0
		Heating	0	0	0	0.00	0	0	0.000	0.000	0	0.0
Zone	CUHs - Vestibules	Cooling	210	0	0	1.00	0	210	0.000	1.000	0	0.0
		Heating	210	0	0	1.00	0	210	0.000	1.000	0	0.0
Zone	FCU - Elec	Cooling	38	0	0	1.00	7	38	0.173	1.000	7	17.3
		Heating	38	0	0	1.00	7	38	0.173	1.000	7	17.3
Room	FCU - Evid Dep	Cooling	61	0	0	1.00	31	61	0.507	1.000	31	50.7
		Heating	61	0	0	1.00	31	61	0.507	1.000	31	50.7
Room	FCU - TR#1	Cooling	22	0	0	1.00	6	22	0.256	1.000	6	25.6
		Heating	22	0	0	1.00	6	22	0.256	1.000	6	25.6
Room	FCU - TR#2	Cooling	22	0	0	1.00	6	22	0.255	1.000	6	25.5
		Heating	22	0	0	1.00	6	22	0.255	1.000	6	25.5
Zone	FCU - Mech	Cooling	155	0	0	1.00	31	155	0.199	1.000	31	19.9
		Heating	155	0	0	1.00	31	155	0.199	1.000	31	19.9

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 3									
103 BREAK ROOM	5.00	24.00	0.06	386	143	1.00	143	1.00	143
104 VENDING / RECYCLE AREA	0.00	0.00	0.00	146	0	1.00	0	1.00	0
BREAK ROOM	5.00	24.00	0.04	532	143		143		143
105 CORRIDOR	0.00	0.00	0.06	370	22	1.00	22	1.00	22
112 SUPPLY ROOM	0.00	0.00	0.12	75	9	1.00	9	1.00	9
113 LOGISTICS OPERATIONS OPEN AREA S-4	5.00	2.00	0.06	458	38	1.00	38	1.00	38
114 INFORMATION MANAGEMENT AREA S-6	5.00	2.00	0.06	267	26	1.00	26	1.00	26
124 CHAPLAIN OFFICE	5.00	1.00	0.06	106	11	1.00	11	1.00	11
125 CHAPLAIN ASSISTANT OFFICE	5.00	1.00	0.06	101	11	1.00	11	1.00	11
CHAPLAIN & LOGISTICS OPS	5.00	6.00	0.06	1,378	117		117		117
126A CLASSROOM	7.50	50.00	0.06	1,106	441	1.00	441	1.00	441
CLASSROOM	7.50	50.00	0.06	1,106	441		441		441
123 COMPANY OPERATIONS FACILITY AREA	5.00	7.00	0.06	915	90	1.00	90	1.00	90
COF AREA	5.00	7.00	0.06	915	90		90		90
156 COMMAND CONFERENCE ROOM	5.00	18.00	0.06	370	112	1.00	112	1.00	112
157 CLOSET	0.00	0.00	0.12	28	3	1.00	3	1.00	3
COMMAND CONF ROOM	5.00	18.00	0.06	398	116		116		116
102 DUTY AGENT OFFICE	5.00	1.00	0.06	80	10	1.00	10	1.00	10
105A CORRIDOR	0.00	0.00	0.06	299	18	1.00	18	1.00	18
137 CBRN STAFF ROOM	5.00	1.00	0.06	113	12	1.00	12	1.00	12
138 POLYGRAPH OFFICE W-2	5.00	2.00	0.06	114	17	1.00	17	1.00	17
139 POLYGRAPH OFFICE W-3	5.00	2.00	0.06	140	18	1.00	18	1.00	18
140 CORRIDOR	0.00	0.00	0.06	116	7	1.00	7	1.00	7
141 OBSERVATION ROOM	5.00	2.00	0.06	51	13	1.00	13	1.00	13
142 POLYGRAPH EXAM ROOM	5.00	2.00	0.06	116	17	1.00	17	1.00	17
143 LOG SECURITY ROOM	5.00	1.00	0.06	114	12	1.00	12	1.00	12
151A INTELLIGENCE SURVEILLANCE - RECON	5.00	0.00	0.06	186	11	1.00	11	1.00	11
CORE SUSPECT AREA	5.00	11.00	0.06	1,329	135		135		135
152 OPERATIONS NCO OFFICE	5.00	1.00	0.06	136	13	1.00	13	1.00	13
153 FORENSICS OFFICE	5.00	1.00	0.06	126	13	1.00	13	1.00	13
154 S-2 / S-3 OFFICE	5.00	1.00	0.06	187	16	1.00	16	1.00	16

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 3									
EAST OFFICES	5.00	3.00	0.06	449	42		42		42
144 GENERAL STORAGE ROOM	0.00	0.00	0.12	151	18	1.00	18	1.00	18
145 EVIDENCE PROCESSING ROOM	5.00	1.00	0.06	142	13	1.00	13	1.00	13
147 SECURE STORAGE ROOM	0.00	0.00	0.12	151	18	1.00	18	1.00	18
EVIDENCE PROCESSING	5.00	1.00	0.10	444	50		50		50
105B CORRIDOR	0.00	0.00	0.06	300	18	1.00	18	1.00	18
106 HUMAN RESOURCES AREA S-1	5.00	4.00	0.06	682	61	1.00	61	1.00	61
134 CLOSET	0.00	0.00	0.12	33	4	1.00	4	1.00	4
135 MESSAGE CENTER	5.00	0.00	0.06	76	5	1.00	5	1.00	5
HR & MESSAGE CENTER	5.00	4.00	0.06	1,091	87		87		87
148 CRIMINAL INTELLIGENCE OFFICE	5.00	1.00	0.06	109	12	1.00	12	1.00	12
150 INTELLIGENCE SURVEILLANCE - RECONN	5.00	4.00	0.06	573	54	1.00	54	1.00	54
INTEL SURV & RECON	5.00	5.00	0.06	682	66		66		66
149 SUPRESSION CRIMINAL INVESTIGATOR C	5.00	1.00	0.06	115	12	1.00	12	1.00	12
151 INTELLIGENCE SURVEILLANCE - RECONN	5.00	1.00	0.06	431	31	1.00	31	1.00	31
155 CRIMINAL INVESTIGATION COMMAND OPI	5.00	1.00	0.06	115	12	1.00	12	1.00	12
INTEL SURV & RECON 2	5.00	3.00	0.06	662	55		55		55
131 CORRIDOR	0.00	0.00	0.06	301	18	1.00	18	1.00	18
132A WOMEN	0.00	0.00	0.00	173	0	1.00	0	1.00	0
132B WOMEN SHOWERS	0.00	0.00	0.00	90	0	1.00	0	1.00	0
133A MEN	0.00	0.00	0.00	174	0	1.00	0	1.00	0
133B MEN SHOWERS	0.00	0.00	0.00	89	0	1.00	0	1.00	0
130 JANITOR	0.00	0.12	0.00	36	0	1.00	0	1.00	0
RESTROOMS	0.00	0.12	0.02	863	18		18		18
106A HUMAN RESOURCES AREA S-1	5.00	2.00	0.06	215	23	1.00	23	1.00	23
107 HUMAN RESOURCES S-1 OFFICER OFFICI	5.00	1.00	0.06	110	12	1.00	12	1.00	12
108 SENIOR HR SARGEANT OFFICE	5.00	1.00	0.06	110	12	1.00	12	1.00	12
109 SENIOR MAINTENANCE SUPERVISOR OFF	5.00	1.00	0.06	110	12	1.00	12	1.00	12
SOUTH OFFICES	5.00	5.00	0.06	546	58		58		58
158 CORRIDOR	0.00	0.00	0.06	265	16	1.00	16	1.00	16
159 CLOSET	0.00	0.00	0.12	37	4	1.00	4	1.00	4

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 3									
160 COMMANDER OFFICE	5.00	1.00	0.06	187	16	1.00	16	1.00	16
161 EXECUTIVE OFFICER OFFICE	5.00	1.00	0.06	151	14	1.00	14	1.00	14
162 COMMAND SARGEANT MAJOR OFFICE	5.00	1.00	0.06	150	14	1.00	14	1.00	14
163 OFFICE SUPPORT TECH OFFICE	5.00	1.00	0.06	128	13	1.00	13	1.00	13
164 TOILET	0.00	0.26	0.00	81	0	1.00	0	1.00	0
SOUTHEAST OFFICES	4.69	4.26	0.06	998	77		77		77
101 VISITOR WAITING AREA	5.00	4.00	0.06	260	36	1.00	36	1.00	36
VISITOR WAITING	5.00	4.00	0.06	260	36		36		36
Primary - FPTU w/ Reheat	5.85	145.38	0.06	11,652	1,530		1,530		1,530
120 ARMS VAULT	0.00	0.00	0.12	106	13	1.00	13	1.00	13
121 TABLE OF ORGANIZATION AND EQUIPMEI	0.00	0.00	0.12	280	34	1.00	34	1.00	34
122 SUPPLY ROOM	0.00	0.00	0.12	225	27	1.00	27	1.00	27
126B CLASSROOM STORAGE ROOM	0.00	0.00	0.12	131	16	1.00	16	1.00	16
NORTHWEST STORAGE	0.00	0.00	0.12	743	89		89		89
110 SUPPLY MANAGER OFFICE	5.00	0.00	0.06	110	7	1.00	7	1.00	7
111 LOGISTICS OPERATIONS MANAGER S-4 C	5.00	1.00	0.06	115	12	1.00	12	1.00	12
114A INFORMATION MANAGEMENT AREA S-6	5.00	1.00	0.06	167	15	1.00	15	1.00	15
115 SECTION CHIEF OFFICE	5.00	1.00	0.06	116	12	1.00	12	1.00	12
SOUTHWEST OFFICES	5.00	3.00	0.06	508	45		45		45
116 INFORMATION MANAGEMENT S-6 OFFICE	5.00	1.00	0.06	115	12	1.00	12	1.00	12
117 SUPPLY ROOM	0.00	0.00	0.12	127	15	1.00	15	1.00	15
118 COMMANDER OFFICE	5.00	1.00	0.06	160	15	1.00	15	1.00	15
119 SARGEANT OFFICE	5.00	1.00	0.06	106	11	1.00	11	1.00	11
WEST OFFICES	5.00	3.00	0.07	508	53		53		53
Secondary - FPTU w/ Reheat	5.00	6.00	0.09	1,759	188		188		188
Default	0.00	0.00	0.00	0	0		0		0
DUMMY	0.00	0.00	0.00	0	0		0		0
001 ENTRY VESTIBULE	0.00	0.00	0.00	74	0	1.00	0	1.00	0
ENTRY VESTIBULE	0.00	0.00	0.00	74	0		0		0
002 VESTIBULE WEST	0.00	0.00	0.00	38	0	1.00	0	1.00	0
VESTIBULE WEST	0.00	0.00	0.00	38	0		0		0

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Ventilation Parameters

System Zone Room	Rp cfm / p	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Cooling Ez	Cooling Voz cfm	Heating Ez	Heating Voz cfm
Alternative 3									
003 VESTIBULE NORTH	0.00	0.00	0.00	41	0	1.00	0	1.00	0
VESTIBULE NORTH	0.00	0.00	0.00	41	0		0		0
CUHs - Vestibules	0.00	0.00	0.00	153	0		0		0
128 ELECTRICAL ROOM	0.00	0.00	0.06	111	7	1.00	7	1.00	7
ELECTRICAL ROOM	0.00	0.00	0.06	111	7		7		7
FCU - Elec	0.00	0.00	0.06	111	7		7		7
146 EVIDENCE DEPOSITORY ROOM	0.00	0.00	0.12	259	31	1.00	31	1.00	31
EVIDENCE DEPOSITORY	0.00	0.00	0.12	259	31		31		31
FCU - Evid Dep	0.00	0.00	0.12	259	31		31		31
127 TELECOM ROOM	0.00	0.00	0.06	95	6	1.00	6	1.00	6
TELECOM ROOM 127	0.00	0.00	0.06	95	6		6		6
FCU - TR#1	0.00	0.00	0.06	95	6		6		6
136 TELECOM ROOM	0.00	0.00	0.06	93	6	1.00	6	1.00	6
TELECOM ROOM 136	0.00	0.00	0.06	93	6		6		6
FCU - TR#2	0.00	0.00	0.06	93	6		6		6
129 MECHANICAL ROOM	0.00	0.00	0.06	513	31	1.00	31	1.00	31
MECHANICAL ROOM	0.00	0.00	0.06	513	31		31		31
FCU - Mech	0.00	0.00	0.06	513	31		31		31

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
103 BREAK ROOM	PFP Reheat	449	449	449	143	143	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
104 VENDING / RECYCLE AREA	PFP Reheat	75	75	75	22	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
BREAK ROOM		523	523	523	165	143							0.297	
105 CORRIDOR	PFP Reheat	99	99	99	30	22	0.745	1.00	0.30	1.00	1.00	1.00	0.552	
112 SUPPLY ROOM	PFP Reheat	20	20	20	9	9	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
113 LOGISTICS OPERATIONS OF	PFP Reheat	135	135	135	40	38	0.927	1.00	0.30	1.00	1.00	1.00	0.370	
114 INFORMATION MANAGEMEN	PFP Reheat	194	194	194	58	26	0.447	1.00	0.30	1.00	1.00	1.00	0.851	
124 CHAPLAIN OFFICE	PFP Reheat	45	45	45	13	11	0.847	1.00	0.30	1.00	1.00	1.00	0.450	
125 CHAPLAIN ASSISTANT OFFI	PFP Reheat	36	36	36	11	11	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
CHAPLAIN & LOGISTICS OPS		529	529	529	162	117							0.297	
126A CLASSROOM	PFP Reheat	899	899	899	441	441	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
CLASSROOM		899	899	899	441	441							0.297	
123 COMPANY OPERATIONS FA	PFP Reheat	249	249	249	90	90	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
COF AREA		249	249	249	90	90							0.297	
156 COMMAND CONFERENCE R	PFP Reheat	372	372	372	112	112	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
157 CLOSET	PFP Reheat	4	4	4	3	3	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
COMMAND CONF ROOM		376	376	376	116	116							0.297	
102 DUTY AGENT OFFICE	PFP Reheat	32	32	32	10	10	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
105A CORRIDOR	PFP Reheat	45	45	45	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
137 CBRN STAFF ROOM	PFP Reheat	46	46	46	14	12	0.859	1.00	0.30	1.00	1.00	1.00	0.438	
138 POLYGRAPH OFFICE W-2	PFP Reheat	58	58	58	17	17	0.966	1.00	0.30	1.00	1.00	1.00	0.332	
139 POLYGRAPH OFFICE W-3	PFP Reheat	62	62	62	19	18	0.988	1.00	0.30	1.00	1.00	1.00	0.310	
140 CORRIDOR	PFP Reheat	24	24	24	7	7	0.965	1.00	0.30	1.00	1.00	1.00	0.332	
141 OBSERVATION ROOM	PFP Reheat	41	41	41	13	13	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
142 POLYGRAPH EXAM ROOM	PFP Reheat	59	59	59	18	17	0.955	1.00	0.30	1.00	1.00	1.00	0.343	
143 LOG SECURITY ROOM	PFP Reheat	47	47	47	14	12	0.846	1.00	0.30	1.00	1.00	1.00	0.452	
151A INTELLIGENCE SURVEILLA	PFP Reheat	40	40	40	12	11	0.929	1.00	0.30	1.00	1.00	1.00	0.369	
CORE SUSPECT AREA		455	455	455	142	135							0.297	
152 OPERATIONS NCO OFFICE	PFP Reheat	84	84	84	25	13	0.523	1.00	0.30	1.00	1.00	1.00	0.775	
153 FORENSICS OFFICE	PFP Reheat	79	79	79	24	13	0.531	1.00	0.30	1.00	1.00	1.00	0.766	
154 S-2 / S-3 OFFICE	PFP Reheat	96	96	96	29	16	0.563	1.00	0.30	1.00	1.00	1.00	0.735	
EAST OFFICES		259	259	259	78	42							0.735	
144 GENERAL STORAGE ROOM	PFP Reheat	50	50	50	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
145 EVIDENCE PROCESSING RC	PFP Reheat	51	51	51	15	13	0.885	1.00	0.30	1.00	1.00	1.00	0.412	
147 SECURE STORAGE ROOM	PFP Reheat	56	56	56	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
EVIDENCE PROCESSING		157	157	157	51	50							0.297	
105B CORRIDOR	PFP Reheat	45	45	45	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
106 HUMAN RESOURCES AREA	PFP Reheat	283	283	283	85	61	0.718	1.00	0.30	1.00	1.00	1.00	0.579	
134 CLOSET	PFP Reheat	7	7	7	4	4	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
135 MESSAGE CENTER	PFP Reheat	20	20	20	6	5	0.773	1.00	0.30	1.00	1.00	1.00	0.524	
HR & MESSAGE CENTER		355	355	355	113	87							0.297	
148 CRIMINAL INTELLIGENCE OI	PFP Reheat	55	55	55	17	12	0.698	1.00	0.30	1.00	1.00	1.00	0.599	
150 INTELLIGENCE SURVEILLAN	PFP Reheat	270	270	270	81	54	0.672	1.00	0.30	1.00	1.00	1.00	0.626	
INTEL SURV & RECON		325	325	325	97	66							0.599	
149 SUPRESSION CRIMINAL INV	PFP Reheat	46	46	46	14	12	0.862	1.00	0.30	1.00	1.00	1.00	0.435	
151 INTELLIGENCE SURVEILLAN	PFP Reheat	89	89	89	31	31	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
155 CRIMINAL INVESTIGATION C	PFP Reheat	38	38	38	12	12	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
INTEL SURV & RECON 2		173	173	173	57	55							0.297	
131 CORRIDOR	PFP Reheat	59	59	59	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
132A WOMEN	PFP Reheat	40	40	40	12	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
132B WOMEN SHOWERS	PFP Reheat	22	22	22	7	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
133A MEN	PFP Reheat	40	40	40	12	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
133B MEN SHOWERS	PFP Reheat	22	22	22	7	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
130 JANITOR	PFP Reheat	10	10	10	3	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
RESTROOMS		194	194	194	59	18							0.297	
106A HUMAN RESOURCES AREA	PFP Reheat	98	98	98	29	23	0.779	1.00	0.30	1.00	1.00	1.00	0.518	
107 HUMAN RESOURCES S-1 OF	PFP Reheat	78	78	78	24	12	0.495	1.00	0.30	1.00	1.00	1.00	0.803	
108 SENIOR HR SARGEANT OFF	PFP Reheat	84	84	84	25	12	0.458	1.00	0.30	1.00	1.00	1.00	0.839	
109 SENIOR MAINTENANCE SUF	PFP Reheat	84	84	84	25	12	0.459	1.00	0.30	1.00	1.00	1.00	0.839	
SOUTH OFFICES		345	345	345	104	58							0.518	
158 CORRIDOR	PFP Reheat	51	51	51	16	16	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
159 CLOSET	PFP Reheat	10	10	10	4	4	1.000	1.00	0.30	1.00	1.00	1.00	0.297	*
160 COMMANDER OFFICE	PFP Reheat	141	141	141	42	16	0.384	1.00	0.30	1.00	1.00	1.00	0.913	
161 EXECUTIVE OFFICER OFFIC	PFP Reheat	95	95	95	28	14	0.494	1.00	0.30	1.00	1.00	1.00	0.803	
162 COMMAND SARGEANT MAJ	PFP Reheat	95	95	95	28	14	0.493	1.00	0.30	1.00	1.00	1.00	0.804	
163 OFFICE SUPPORT TECH OF	PFP Reheat	43	43	43	13	13	0.980	1.00	0.30	1.00	1.00	1.00	0.318	

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
164 TOILET	PFP Reheat	33	33	33	10	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
SOUTHEAST OFFICES		467	467	467	142	77							0.297	
101 VISITOR WAITING AREA	PFP Reheat	124	124	124	37	36	0.953	1.00	0.30	1.00	1.00	1.00	0.344	
VISITOR WAITING		124	124	124	37	36							0.344	
Primary - FPTU w/ Reheat		5,431	5,146	5,431	1,853	1,530							0.297	
120 ARMS VAULT	PFP Reheat	26	26	26	13	13	1.000	1.00	0.30	1.00	1.00	1.00	0.263	*
121 TABLE OF ORGANIZATION A	PFP Reheat	85	85	85	34	34	1.000	1.00	0.30	1.00	1.00	1.00	0.263	*
122 SUPPLY ROOM	PFP Reheat	76	76	76	27	27	1.000	1.00	0.30	1.00	1.00	1.00	0.263	*
126B CLASSROOM STORAGE R(	PFP Reheat	35	35	35	16	16	1.000	1.00	0.30	1.00	1.00	1.00	0.263	*
NORTHWEST STORAGE		222	222	222	89	89							0.263	
110 SUPPLY MANAGER OFFICE	PFP Reheat	61	61	61	18	7	0.365	1.00	0.30	1.00	1.00	1.00	0.897	
111 LOGISTICS OPERATIONS M/	PFP Reheat	75	75	75	22	12	0.530	1.00	0.30	1.00	1.00	1.00	0.732	
114A INFORMATION MANAGEME	PFP Reheat	57	57	57	17	15	0.877	1.00	0.30	1.00	1.00	1.00	0.386	
115 SECTION CHIEF OFFICE	PFP Reheat	94	94	94	28	12	0.425	1.00	0.30	1.00	1.00	1.00	0.838	
SOUTHWEST OFFICES		286	286	286	86	45							0.386	
116 INFORMATION MANAGEMEN	PFP Reheat	74	74	74	22	12	0.538	1.00	0.30	1.00	1.00	1.00	0.725	
117 SUPPLY ROOM	PFP Reheat	38	38	38	15	15	1.000	1.00	0.30	1.00	1.00	1.00	0.263	*
118 COMMANDER OFFICE	PFP Reheat	103	103	103	31	15	0.473	1.00	0.30	1.00	1.00	1.00	0.789	
119 SARGEANT OFFICE	PFP Reheat	66	66	66	20	11	0.571	1.00	0.30	1.00	1.00	1.00	0.692	
WEST OFFICES		281	281	281	88	53							0.263	
Secondary - FPTU w/ Reheat		789	715	789	263	188							0.263	
Default		0	0	0	0	0							0.000	
DUMMY		0	0	0	0	0							0.000	
001 ENTRY VESTIBULE	Single Fan CV	136	136	136	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		136	136	136	0	0							1.000	
002 VESTIBULE WEST	Single Fan CV	55	55	55	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		55	55	55	0	0							1.000	
003 VESTIBULE NORTH	Single Fan CV	18	18	18	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		18	18	18	0	0							1.000	
CUHs - Vestibules		210	210	210	0	0							1.000	
128 ELECTRICAL ROOM	Single Fan CV	38	38	38	0	7	0.173	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		38	38	38	0	7							1.000	
FCU - Elec		38	38	38	0	7							1.000	

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Ventilation Calculations for Cooling Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-clg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
146 EVIDENCE DEPOSITORY RC	Single Fan CV	61	61	61	0	31	0.507	1.00	0.00	1.00	1.00	1.00	0.000	
EVIDENCE DEPOSITORY		61	61	61	0	31							1.000	
FCU - Evid Dep		61	61	61	0	31							1.000	
127 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.256	1.00	0.00	1.00	1.00	1.00	0.000	
TELECOM ROOM 127		22	22	22	0	6							1.000	
FCU - TR#1		22	22	22	0	6							1.000	
136 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.255	1.00	0.00	1.00	1.00	1.00	0.000	
TELECOM ROOM 136		22	22	22	0	6							1.000	
FCU - TR#2		22	22	22	0	6							1.000	
129 MECHANICAL ROOM	Single Fan CV	155	155	155	0	31	0.199	1.00	0.00	1.00	1.00	1.00	1.000	*
MECHANICAL ROOM		155	155	155	0	31							1.000	
FCU - Mech		155	155	155	0	31							1.000	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
103 BREAK ROOM	PFP Reheat	143	143	143	143	143	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
104 VENDING / RECYCLE AREA	PFP Reheat	22	22	39	22	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
BREAK ROOM		166	166	183	166	143							0.826	
105 CORRIDOR	PFP Reheat	30	30	30	30	22	0.745	1.00	0.30	1.00	1.00	1.00	1.000	
112 SUPPLY ROOM	PFP Reheat	9	9	9	9	9	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
113 LOGISTICS OPERATIONS OF	PFP Reheat	40	40	40	40	38	0.927	1.00	0.30	1.00	1.00	1.00	0.898	
114 INFORMATION MANAGEMEN	PFP Reheat	58	58	58	58	26	0.447	1.00	0.30	1.00	1.00	1.00	1.000	
124 CHAPLAIN OFFICE	PFP Reheat	13	13	13	13	11	0.847	1.00	0.30	1.00	1.00	1.00	0.979	
125 CHAPLAIN ASSISTANT OFFI(	PFP Reheat	11	11	11	11	11	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
CHAPLAIN & LOGISTICS OPS		162	162	162	162	117							0.826	
126A CLASSROOM	PFP Reheat	441	441	441	441	441	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
CLASSROOM		441	441	441	441	441							0.826	
123 COMPANY OPERATIONS FA(	PFP Reheat	90	90	90	90	90	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
COF AREA		90	90	90	90	90							0.826	
156 COMMAND CONFERENCE R(	PFP Reheat	112	112	112	112	112	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
157 CLOSET	PFP Reheat	3	3	3	3	3	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
COMMAND CONF ROOM		116	116	116	116	116							0.826	
102 DUTY AGENT OFFICE	PFP Reheat	10	10	10	10	10	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
105A CORRIDOR	PFP Reheat	18	18	18	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
137 CBRN STAFF ROOM	PFP Reheat	14	14	14	14	12	0.859	1.00	0.30	1.00	1.00	1.00	0.966	
138 POLYGRAPH OFFICE W-2	PFP Reheat	17	17	17	17	17	0.966	1.00	0.30	1.00	1.00	1.00	0.860	
139 POLYGRAPH OFFICE W-3	PFP Reheat	19	19	19	19	18	0.988	1.00	0.30	1.00	1.00	1.00	0.838	
140 CORRIDOR	PFP Reheat	7	7	7	7	7	0.965	1.00	0.30	1.00	1.00	1.00	0.861	
141 OBSERVATION ROOM	PFP Reheat	13	13	13	13	13	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
142 POLYGRAPH EXAM ROOM	PFP Reheat	18	18	18	18	17	0.955	1.00	0.30	1.00	1.00	1.00	0.871	
143 LOG SECURITY ROOM	PFP Reheat	14	14	14	14	12	0.846	1.00	0.30	1.00	1.00	1.00	0.980	
151A INTELLIGENCE SURVEILLA	PFP Reheat	12	12	12	12	11	0.929	1.00	0.30	1.00	1.00	1.00	0.897	
CORE SUSPECT AREA		142	142	142	142	135							0.826	
152 OPERATIONS NCO OFFICE	PFP Reheat	25	25	25	25	13	0.523	1.00	0.30	1.00	1.00	1.00	1.000	
153 FORENSICS OFFICE	PFP Reheat	24	24	24	24	13	0.531	1.00	0.30	1.00	1.00	1.00	1.000	
154 S-2 / S-3 OFFICE	PFP Reheat	29	29	29	29	16	0.563	1.00	0.30	1.00	1.00	1.00	1.000	
EAST OFFICES		78	78	78	78	42							1.000	
144 GENERAL STORAGE ROOM	PFP Reheat	18	18	18	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*

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Ventilation Calculations for Heating Design

System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
145 EVIDENCE PROCESSING RC	PFP Reheat	15	15	15	15	13	0.885	1.00	0.30	1.00	1.00	1.00	0.941	
147 SECURE STORAGE ROOM	PFP Reheat	18	18	18	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
EVIDENCE PROCESSING		51	51	51	51	50							0.826	
105B CORRIDOR	PFP Reheat	18	18	18	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
106 HUMAN RESOURCES AREA	PFP Reheat	85	85	85	85	61	0.718	1.00	0.30	1.00	1.00	1.00	1.000	
134 CLOSET	PFP Reheat	4	4	4	4	4	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
135 MESSAGE CENTER	PFP Reheat	6	6	6	6	5	0.773	1.00	0.30	1.00	1.00	1.00	1.000	
HR & MESSAGE CENTER		113	113	113	113	87							0.826	
148 CRIMINAL INTELLIGENCE OF	PFP Reheat	17	17	17	17	12	0.698	1.00	0.30	1.00	1.00	1.00	1.000	
150 INTELLIGENCE SURVEILLAN	PFP Reheat	81	81	81	81	54	0.672	1.00	0.30	1.00	1.00	1.00	1.000	
INTEL SURV & RECON		97	97	97	97	66							1.000	
149 SUPRESSION CRIMINAL INV	PFP Reheat	14	14	14	14	12	0.862	1.00	0.30	1.00	1.00	1.00	0.964	
151 INTELLIGENCE SURVEILLAN	PFP Reheat	31	31	31	31	31	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
155 CRIMINAL INVESTIGATION C	PFP Reheat	12	12	12	12	12	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
INTEL SURV & RECON 2		57	57	57	57	55							0.826	
131 CORRIDOR	PFP Reheat	18	18	18	18	18	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
132A WOMEN	PFP Reheat	12	12	12	12	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
132B WOMEN SHOWERS	PFP Reheat	7	7	7	7	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
133A MEN	PFP Reheat	12	12	12	12	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
133B MEN SHOWERS	PFP Reheat	7	7	7	7	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
130 JANITOR	PFP Reheat	3	3	3	3	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
RESTROOMS		59	59	59	59	18							0.826	
106A HUMAN RESOURCES AREA	PFP Reheat	29	29	29	29	23	0.779	1.00	0.30	1.00	1.00	1.00	1.000	
107 HUMAN RESOURCES S-1 OF	PFP Reheat	24	24	24	24	12	0.495	1.00	0.30	1.00	1.00	1.00	1.000	
108 SENIOR HR SARGEANT OFF	PFP Reheat	25	25	25	25	12	0.458	1.00	0.30	1.00	1.00	1.00	1.000	
109 SENIOR MAINTENANCE SUP	PFP Reheat	25	25	25	25	12	0.459	1.00	0.30	1.00	1.00	1.00	1.000	
SOUTH OFFICES		104	104	104	104	58							1.000	
158 CORRIDOR	PFP Reheat	16	16	16	16	16	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
159 CLOSET	PFP Reheat	4	4	4	4	4	1.000	1.00	0.30	1.00	1.00	1.00	0.826	*
160 COMMANDER OFFICE	PFP Reheat	42	42	42	42	16	0.384	1.00	0.30	1.00	1.00	1.00	1.000	
161 EXECUTIVE OFFICER OFFIC	PFP Reheat	28	28	28	28	14	0.494	1.00	0.30	1.00	1.00	1.00	1.000	
162 COMMAND SARGEANT MAJ	PFP Reheat	28	28	28	28	14	0.493	1.00	0.30	1.00	1.00	1.00	1.000	
163 OFFICE SUPPORT TECH OFI	PFP Reheat	13	13	13	13	13	0.980	1.00	0.30	1.00	1.00	1.00	0.846	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz	
Alternative 3														
164 TOILET	PFP Reheat	10	10	10	10	0	0.000	1.00	0.30	1.00	1.00	1.00	1.000	
SOUTHEAST OFFICES		142	142	142	142	77							0.826	
101 VISITOR WAITING AREA	PFP Reheat	37	37	37	37	36	0.953	1.00	0.30	1.00	1.00	1.00	0.873	
VISITOR WAITING		37	37	37	37	36							0.873	
Primary - FPTU w/ Reheat		1,853	1,853	1,870	1,853	1,530							0.826	
120 ARMS VAULT	PFP Reheat	13	13	13	13	13	1.000	1.00	0.30	1.00	1.00	1.00	0.713	*
121 TABLE OF ORGANIZATION A	PFP Reheat	34	34	42	34	34	1.000	1.00	0.30	1.00	1.00	1.00	0.713	*
122 SUPPLY ROOM	PFP Reheat	27	27	35	27	27	1.000	1.00	0.30	1.00	1.00	1.00	0.713	*
126B CLASSROOM STORAGE RC	PFP Reheat	16	16	16	16	16	1.000	1.00	0.30	1.00	1.00	1.00	0.713	*
NORTHWEST STORAGE		89	89	105	89	89							0.713	
110 SUPPLY MANAGER OFFICE	PFP Reheat	18	18	18	18	7	0.365	1.00	0.30	1.00	1.00	1.00	1.000	
111 LOGISTICS OPERATIONS MA	PFP Reheat	22	22	22	22	12	0.530	1.00	0.30	1.00	1.00	1.00	1.000	
114A INFORMATION MANAGEME	PFP Reheat	17	17	17	17	15	0.877	1.00	0.30	1.00	1.00	1.00	0.837	
115 SECTION CHIEF OFFICE	PFP Reheat	28	28	28	28	12	0.425	1.00	0.30	1.00	1.00	1.00	1.000	
SOUTHWEST OFFICES		86	86	86	86	45							0.837	
116 INFORMATION MANAGEMEN	PFP Reheat	22	22	22	22	12	0.538	1.00	0.30	1.00	1.00	1.00	1.000	
117 SUPPLY ROOM	PFP Reheat	15	15	15	15	15	1.000	1.00	0.30	1.00	1.00	1.00	0.713	*
118 COMMANDER OFFICE	PFP Reheat	31	31	31	31	15	0.473	1.00	0.30	1.00	1.00	1.00	1.000	
119 SARGEANT OFFICE	PFP Reheat	20	20	20	20	11	0.571	1.00	0.30	1.00	1.00	1.00	1.000	
WEST OFFICES		88	88	88	88	53							0.713	
Secondary - FPTU w/ Reheat		263	263	279	263	188							0.713	
Default		0	0	0	0	0							0.000	
DUMMY		0	0	0	0	0							0.000	
001 ENTRY VESTIBULE	Single Fan CV	136	136	136	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
ENTRY VESTIBULE		136	136	136	0	0							1.000	
002 VESTIBULE WEST	Single Fan CV	55	55	55	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE WEST		55	55	55	0	0							1.000	
003 VESTIBULE NORTH	Single Fan CV	18	18	18	0	0	0.000	1.00	0.00	1.00	1.00	1.00	1.000	*
VESTIBULE NORTH		18	18	18	0	0							1.000	
CUHs - Vestibules		210	210	210	0	0							1.000	
128 ELECTRICAL ROOM	Single Fan CV	38	38	38	0	7	0.173	1.00	0.00	1.00	1.00	1.00	1.000	*
ELECTRICAL ROOM		38	38	38	0	7							1.000	
FCU - Elec		38	38	38	0	7							1.000	

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System Zone Room	Box Type	Vpz cfm	Vfan cfm	Vdz cfm	Vpz-min cfm	Voz-htg cfm	Zd	Ep	Er	Fa	Fb	Fc	Evz
Alternative 3													
146 EVIDENCE DEPOSITORY RO	Single Fan CV	61	61	61	0	31	0.507	1.00	0.00	1.00	1.00	1.00	0.000
EVIDENCE DEPOSITORY		61	61	61	0	31							1.000
FCU - Evid Dep		61	61	61	0	31							1.000
127 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.256	1.00	0.00	1.00	1.00	1.00	0.000
TELECOM ROOM 127		22	22	22	0	6							1.000
FCU - TR#1		22	22	22	0	6							1.000
136 TELECOM ROOM	Single Fan CV	22	22	22	0	6	0.255	1.00	0.00	1.00	1.00	1.00	0.000
TELECOM ROOM 136		22	22	22	0	6							1.000
FCU - TR#2		22	22	22	0	6							1.000
129 MECHANICAL ROOM	Single Fan CV	155	155	155	0	31	0.199	1.00	0.00	1.00	1.00	1.00	1.000 *
MECHANICAL ROOM		155	155	155	0	31							1.000
FCU - Mech		155	155	155	0	31							1.000

MONTHLY ENERGY CONSUMPTION

By PB

------- Monthly Energy Consumption -------

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 1	**ASHRAE 90_1-2007 Baseline**												
Electric													
On-Pk Cons. (kWh)	16,042	14,854	16,943	16,595	16,577	17,329	20,087	20,712	16,859	16,977	15,946	16,493	205,414
On-Pk Demand (kW)	41	41	41	50	43	54	69	61	57	41	41	41	69
Gas													
On-Pk Cons. (therms)	651	509	493	192	84	3	0	0	5	162	548	671	3,318
On-Pk Demand (therms/hr)	7	6	5	5	3	0	0	0	0	5	6	6	7

Energy Consumption		
Building	70,388	Btu/(ft2-year)
Source	167,149	Btu/(ft2-year)
Floor Area	14,674	ft2

Environmental Impact Analysis	
CO2	229,387 lbm/year
SO2	110 gm/year
NOX	269 gm/year

MONTHLY ENERGY CONSUMPTION

By PB

------- Monthly Energy Consumption -------

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 2	**Self Contained VAV Units w/ Clg Tower**												
Electric													
On-Pk Cons. (kWh)	12,462	11,651	13,168	13,017	12,799	13,529	15,074	15,558	13,370	13,792	12,529	12,880	159,828
On-Pk Demand (kW)	34	34	35	38	37	39	45	44	41	36	34	37	45
Gas													
On-Pk Cons. (therms)	310	230	138	50	0	0	25	25	48	216	293	320	1,654
On-Pk Demand (therms/hr)	1	1	1	1	0	0	1	1	1	1	1	1	1
Water													
Cons. (1000gal)	1	1	1	3	3	6	11	11	7	4	1	1	51

Energy Consumption		
Building	48,450	Btu/(ft2-year)
Source	123,405	Btu/(ft2-year)
Floor Area	14,674	ft2

Environmental Impact Analysis	
CO2	178,105 lbm/year
SO2	86 gm/year
NOX	209 gm/year

MONTHLY ENERGY CONSUMPTION

By PB

------- Monthly Energy Consumption -------

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 3	**VAV Fan Coil Units w/ Air Cooled Chiller**												
Electric													
On-Pk Cons. (kWh)	11,421	10,606	12,070	12,342	12,450	14,305	16,901	17,561	14,068	12,792	11,389	11,832	157,738
On-Pk Demand (kW)	31	31	31	43	38	45	57	54	48	37	31	37	57
Gas													
On-Pk Cons. (therms)	419	290	201	46	0	0	25	25	48	219	373	476	2,123
On-Pk Demand (therms/hr)	2	2	2	2	0	0	1	1	1	2	2	2	2

Energy Consumption		
Building	51,158	Btu/(ft2-year)
Source	125,309	Btu/(ft2-year)
Floor Area	14,674	ft2

Environmental Impact Analysis	
CO2	175,776 lbm/year
SO2	85 gm/year
NOX	206 gm/year

ENERGY CONSUMPTION SUMMARY

By PB

	Elect Cons. (kWh)	Gas Cons. (kBtu)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 1					
Primary heating					
Primary heating		330,885	32.0 %	330,885	348,300
Other Htg Accessories			0.0 %	0	0
Heating Subtotal		**330,885**	**32.0 %**	**330,885**	**348,300**
Primary cooling					
Cooling Compressor	8,816		2.9 %	30,089	90,277
Tower/Cond Fans	691		0.2 %	2,358	7,074
Condenser Pump			0.0 %	0	0
Other Clg Accessories	168		0.1 %	574	1,722
Cooling Subtotal....	**9,675**		**3.2 %**	**33,021**	**99,073**
Auxiliary					
Supply Fans	46,345		15.3 %	158,175	474,571
Pumps			0.0 %	0	0
Stand-alone Base Utilities	28,660		9.5 %	97,816	293,478
Aux Subtotal....	75,005		24.8 %	255,991	768,049
Lighting					
Lighting	72,057		23.8 %	245,931	737,867
Receptacle					
Receptacles	49,111		16.2 %	167,615	502,895
Cogeneration					
Cogeneration			0.0 %	0	0
Totals					
Totals**	**205,848**	**330,885**	**100.0 %**	**1,033,443**	**2,456,184**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

ENERGY CONSUMPTION SUMMARY

By PB

	Elect Cons. (kWh)	Gas Cons. (kBtu)	Water Cons. (1000 gals)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 2						
Primary heating						
Primary heating		165,448		23.3 %	165,448	174,156
Other Htg Accessories	3,851			1.9 %	13,144	39,435
Heating Subtotal	**3,851**	**165,448**		**25.1 %**	**178,592**	**213,591**
Primary cooling						
Cooling Compressor	11,157			5.4 %	38,079	114,247
Tower/Cond Fans	2,176		51	1.0 %	7,428	22,287
Condenser Pump				0.0 %	0	0
Other Clg Accessories	5,400			2.6 %	18,430	55,296
Cooling Subtotal....	**18,733**		**51**	**9.0 %**	**63,937**	**191,831**
Auxiliary						
Supply Fans	7,689			3.7 %	26,242	78,733
Pumps				0.0 %	0	0
Stand-alone Base Utilities	28,660			13.8 %	97,816	293,478
Aux Subtotal....	36,349			17.5 %	124,058	372,211
Lighting						
Lighting	51,784			24.9 %	176,740	530,273
Receptacle						
Receptacles	49,111			23.6 %	167,615	502,895
Cogeneration						
Cogeneration				0.0 %	0	0
Totals						
Totals**	**159,828**	**165,448**	**51**	**100.0 %**	**710,942**	**1,810,800**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

ENERGY CONSUMPTION SUMMARY

By PB

	Elect Cons. (kWh)	Gas Cons. (kBtu)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 3					
Primary heating					
Primary heating		212,320	28.3 %	212,320	223,495
Other Htg Accessories	1,843		0.8 %	6,289	18,868
Heating Subtotal	**1,843**	**212,320**	**29.1 %**	**218,609**	**242,363**
Primary cooling					
Cooling Compressor	11,856		5.4 %	40,463	121,402
Tower/Cond Fans	718		0.3 %	2,451	7,355
Condenser Pump			0.0 %	0	0
Other Clg Accessories	1,608		0.7 %	5,489	16,470
Cooling Subtotal....	**14,182**		**6.5 %**	**48,404**	**145,227**
Auxiliary					
Supply Fans	6,321		2.9 %	21,573	64,726
Pumps	5,837		2.7 %	19,923	59,775
Stand-alone Base Utilities	28,660		13.0 %	97,816	293,478
Aux Subtotal....	40,818		18.6 %	139,312	417,978
Lighting					
Lighting	51,784		23.5 %	176,740	530,273
Receptacle					
Receptacles	49,111		22.3 %	167,615	502,895
Cogeneration					
Cogeneration			0.0 %	0	0
Totals					
Totals**	**157,738**	**212,320**	**100.0 %**	**750,680**	**1,838,736**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

APPENDIX F

ANSI/ASHRAE STANDARD 189.1 COMPLIANCE

CORRECTED FINAL SUBMISSION
12 SEPTEMBER 2012

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§8.3.1: Indoor Air Quality			
❑	❑	§8.3.1: The building complies with Section 4 of ANSI/ASHRAE Standard 62.1. Provide ANSI/ASHRAE Standard 62.1-2007 Appendix H checklist to document compliance with Section 4.3 requirements.	
❑	❑	§8.3.1: The building complies with Section 5 of ANSI/ASHRAE Standard 62.1 except as noted below. When a requirement is provided below, it supersedes the requirement in ANSI/ASHRAE Standard 62.1. Provide ANSI/ASHRAE Standard 62.1-2007 Appendix H checklist to document Section 5.2.3 requirements.	
❑	❑	§8.3.1.3a1: The particulate matter filters or air cleaners have a MERV of not less than 8, and comply with and are provided where required in Section 5.9 of ANSI/ASHRAE Standard 62.1. (Include document reference for specifications.)	Not provided at this level of detail.
❑	❑	§8.3.1.4a: Smoking is not allowed inside the building.	Sheet A-703; Sign is provided, but location is not indicated at this level of detail.
❑	❑	§8.3.1.4a: Signs stating that smoking is not allowed inside the building have been posted within 10 ft (3 m) of each building entrance.	Sheet A-703; Sign is provided, but location is not indicated at this level of detail.
❑	❑	§8.3.1.4b: Any exterior designated smoking areas are located a minimum of 25 ft (7.5 m) away from building entrances, outdoor air intakes, and operable windows.	Not provided at this level of detail.
❑	❑	§8.3.1: The building complies with Section 6 of ANSI/ASHRAE Standard 62.1 except as noted below. When a requirement is provided below, it supersedes the requirement in ANSI/ASHRAE Standard 62.1. Provide ANSI/ASHRAE Standard 62.1-2007 Appendix H checklist to document Section 6.2 compliance.	
❑	❑	§8.3.1.1a: The Ventilation Rate Procedure of ANSI/ASHRAE Standard 62.1 was used to design each mechanical ventilation system in the building.	Design Narrative; Appendix E: Energy Modeling; ASHRAE Standard 62.1-2004/2007.
❑	❑	§8.3.1.3a1: (PM_{10}) The building is located in an area designated as the following (Attainment or Non-attainment) under the National Ambient Air Quality Standards for PM_{10}, as determined by the AHJ: **Status (If 8.3.1.3a1 applies, PM_{10}):** ❑ Attainment ❑ Non-attainment ❑ Particulate matter filters and air cleaning devices with MERVs of not less than 8 have been provided to clean the air at any location prior to its introduction to occupied space, as required in Section 6.2.1.1 of ANSI/ASHRAE Standard 62.1. (Include document reference for specifications.)	**Source of Information**
❑	❑	§8.3.1.3a2: (PM2.5) The building is located in an area designated as the following under the National Ambient Air Quality Standards for PM2.5, as determined by the AHJ: **Status (If 8.3.1.3a2 applies, PM2.5):** ❑ Attainment ❑ Non-attainment ❑ Particulate matter filters and air-cleaning devices with MERVs of not less than 13 have been provided to clean the air at any location prior to its introduction to occupied space, as required in Section 6.2.1.1 of ANSI/ASHRAE Standard 62.1. (Include document reference for specifications.)	**Source of Information**

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§8.3.1: Indoor Air Quality Cont.			
❑	❑	§8.3.1.3b: (Ozone) The building is located in an area designated as the following under the National Ambient Air Quality Standards for ozone as determined by the AHJ: **Status (If 8.3.1.3b applies, Ozone):** ❑ Attainment ❑ Non-attainment ❑ Air cleaning devices with a volumetric ozone removal efficiencies of not less than 40% have been provided to clean the air at any location prior to its introduction to occupied space, as required in Section 6.2.1.1 of ANSI/ASHRAE Standard 62.1. (Include document reference for specifications.)	**Source of Information**
❑	❑	§8.3.1.3c: All filter frames, air cleaner racks, access doors, and air cleaner cartridges are sealed. (Include document reference for specifications.)	Not provided at this level of detail.
❑	❑	§8.3.1: The building complies with Section 7 of ANSI/ASHRAE Standard 62.1.	
❑	❑	§8.3.1.2.1: A permanently mounted, direct total outdoor airflow measurement device has been provided that is capable of measuring the system outdoor airflow rate within an accuracy of ±15% of the minimum outdoor airflow rate. It is also capable of sending an alarm to the building operator or a signal to a building central monitoring system when flow rates are not in compliance. ❑ Exception §8.3.1.2.1: Constant volume air supply systems that use a damper position feedback system are not required to have a direct total outdoor airflow measurement device.	Not provided at this level of detail.
❑	❑	§8.3.1.5: All building entrances employ an entry mat system with a scraper surface, an absorption surface, and a finishing surface.	A-604; vestibules indicate a walk-off-mat system with an absorption and finishing surface in the entry vestibules. Scraper surfaces shall be applied outside the first entry door per ASHRAE 189.1-2009, 8.3.1.5.1 *Scraper Surface* requirements.
❑	❑	§8.3.1.5: Each scraper surface, absorption surface, and finishing surface is as wide as the entry opening, and has a minimum length of 10 ft, measured in the primary direction of travel. Exceptions §8.3.1.5: ❑ 1) Entrances to individual dwelling units. ❑ 2) Length of entry mat surfaces is allowed to be reduced due to a barrier, such as a counter, artition, or wall, or local regulations prohibiting the use of scraper surfaces outside the entry. In this case entry mat surfaces have a minimum length of 3 ft (1 m) of indoor surface, with a minimum combined length of 6 ft (2 m).	Not provided at this level of detail.
❑	❑	§8.3.1.5.1a: The scraper surface is the first surface stepped on when entering the building.	Not provided at this level of detail.
❑	❑	§8.3.1.5.1b: The scraper surface is either immediately outside or inside the entry.	Not provided at this level of detail.
❑	❑	§8.3.1.5.1c: The scraper surface is a minimum of 3 ft (1 m) long.	Not provided at this level of detail.
❑	❑	§8.3.1.5.1d: The scraper surface consists of either permanently mounted grates or removable mats with knobby or squeegee-like projections.	Not provided at this level of detail.
❑	❑	§8.3.1.5.2a: The absorption surface is the second surface stepped on when entering the building.	Not provided at this level of detail.

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
❑	❑	§8.3.1.5.2b: The absorption surface is a minimum of 3 ft (1 m) long, and made from materials that can perform both a scraping action and a moisture wicking action.	Not provided at this level of detail.
❑	❑	§8.3.1.5.3a: The finishing surface is the third surface stepped on when entering the building.	Not provided at this level of detail.
❑	❑	§8.3.1.5.3b: The finishing surface is a minimum of 4 ft (1.2 m) long, and made from material that will both capture and hold any remaining particles or moisture.	Not provided at this level of detail.

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
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City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§8.3.2: Thermal Environmental Conditions for Human Occupancy			
❑	❑	§8.3.2: The building has been designed in compliance with ANSI/ASHRAE Standard 55, Sections 6.1, "Design," and 6.2, "Documentation of ANSI/ASHRAE Standard 55." Provide ANSI/ASHRAE Standard 55 compliance form (Addendum H) to document compliance with section 6.2.	
		❑ Exception §8.3.2: Spaces with special requirements for processes, activities, or contents that require a thermal environment outside that which humans find thermally acceptable, such as food storage, natatoriums, shower rooms, saunas, and drying rooms.	
§8.3.3: Acoustical Control			
❑	❑	§8.3.3.1: Wall and roof-ceiling assemblies that are part of the building envelope have a composite OITC rating of 40 or greater or a composite STC rating of 50 or greater for any of the following conditions: a. Buildings within 1000 ft (300 m) of expressways. b. Buildings within 5 mi (8 km) of airports serving more than 10,000 commercial jets per year. c. Where yearly average day-night average sound levels at the property line exceed 65 decibels	
		Composite STC or OITC rating of wall and roof-ceiling assemblies that are part of the building envelope:	
❑	❑	§8.3.3.1: Fenestration that is part of the building envelope shall have an OITC or STC rating of 30 or greater for any of the following conditions: a. Buildings within 1000 ft (300 m) of expressways. b. Buildings within 5 mi (8 km) of airports serving more than 10,000 commercial jets per year. c. Where yearly average day-night average sound levels at the property line exceed 65 decibels.	
		Composite STC or OITC rating of fenestration that are part of the building envelope:	
		❑ Exception §8.3.3.1: Buildings that may have to adhere to functional and operational requirements such as factories, stadiums, storage, enclosed parking structure, and utility	
✓	❑	§8.3.3.2: Interior wall and floor/ceiling assemblies separating interior rooms and spaces have been designed in accordance with all of the following: a. Wall and floor/ceiling assemblies separating adjacent dwelling units, dwelling units and public spaces, adjacent tenant spaces, tenant spaces and public places, and adjacent classrooms have a composite STC rating of 50 or greater. b. Wall and floor/ceiling assemblies separating hotel rooms, motel rooms, and patient rooms in nursing homes and hospitals have a composite STC rating of 45 or greater. c. Wall and floor/ceiling assemblies separating classrooms from restrooms and showers have a composite STC rating of 53 or greater. d. Wall and floor/ceiling assemblies separating classrooms from music rooms, mechanical rooms, cafeteria, gymnasiums, and indoor swimming pools have a composite STC rating of 60 or greater.	Wall types are labeled on A-101. Wall type sound ratings are listed on A-601.
✓		Composite STC rating of wall and floor/ceiling assemblies separating adjacent dwelling units, dwelling units and public spaces, adjacent tenant spaces, tenant spaces and public places, and adjacent classrooms: (Attach additional table if necessary.)	Wall types are labeled on A-101. Wall type sound ratings are listed on A-601.
	✓	Composite STC rating of wall and floor/ceiling assemblies separating hotel rooms, motel rooms, and patient rooms in nursing homes and hospitals: (Attach additional table if necessary.)	
✓		Composite STC rating of wall and floor-ceiling assemblies separating classrooms from restrooms and showers: (Attach additional table if necessary.)	Wall types are labeled on A-101. Wall type sound ratings are listed on A-601.

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

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City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
✓		Composite STC rating of wall and floor/ceiling assemblies separating classrooms from music rooms, mechanical rooms, cafeteria, gymnasiums, and indoor swimming pools: (Attach additional table if necessary.)	Wall types are labeled on A-101. Wall type sound ratings are listed on A-601.

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

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Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§8.3.3: Acoustical Control Cont.			
❑	❑	§8.3.3.3: OITC values for assemblies and components have been determined in accordance with ASTM E1332. STC values for assemblies and components have been determined in accordance with ASTM E90 and ASTM E413.	
§8.3.4: Daylighting by Toplighting			
❑	✓	§8.3.4: In buildings three stories or less above grade, conditioned or unconditioned enclosed spaces that are greater than 20,000 ft^2 (2000 m^2) and directly under a roof with finished ceiling heights greater than 15 ft (4 m), and that have a lighting power allowance for general lighting equal to or greater than 0.5 W/ft^2 (5.5 W/m^2), there is a minimum fenestration area providing daylighting by toplighting for large enclosed spaces. Exceptions §8.3.4: ❑ 1) Buildings in climate zones 7 or 8. ❑ 2) Auditoria, theaters, museums, places of worship, and refrigerated warehouses.	
❑	✓	§8.3.4.1: In buildings specified in §8.3.4, a minimum of 50% of the floor area directly under a roof in spaces with a lighting power density or lighting power allowance greater than 0.5 W/ft2 (5.5 W/m2) are in the daylight area.	
❑	✓	§8.3.4.1: In buildings specified in §8.3.4, areas that are daylit have a minimum toplighting area to daylight area ratio as shown in Table 8.3.4.1. For purposes of compliance with Table 8.3.4.1, the greater of the space lighting power density and the space lighting power allowance has been used.	
❑	✓	§8.3.4.2: In buildings specified in §8.3.4, skylights used to comply with Section 8.3.4.1 have a glazing material or diffuser that has a measured haze value greater than 90%, tested according to ASTM D1003 (notwithstanding its scope) or other test method approved by the AHJ. Exceptions §8.3.4.2: ❑ 1) Skylights with a measured haze value less than or equal to 90% whose combined area does not exceed 5% of the total skylight area. ❑ 2) Tubular daylighting devices with a diffuser. ❑ 3) Skylights that are capable of preventing direct sunlight from entering the occupied space below the well during occupied hours. This shall be accomplished using one or more of the following: a. orientation b. automated shading or diffusing devices c. diffusers d. fixed internal or external baffles ❑ 4) Skylights in airline terminals, convention centers, and shopping malls.	
§8.3.5: Isolation of the Building from Pollutants in Soil			

Indoor Environmental Quality (IEQ) Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
❑	❑	§8.3.5: Building projects that include construction or expansion of a ground-level foundation and that are located on brownfield sites or in "zone 1" counties for radon (those identified to have a significant probability of radon concentrations higher than 4 picocuries/liter on the EPA map of radon zones) have a soil gas retarding system installed between the newly constructed space and the soil. **Status (If 8.3.5 applies, Radon):** ❑ Brownfield site ❑ Building has a soil gas retarding system installed between the newly constructed space and the soil. (Include document reference for specifications.) ❑ Radon county in zone 1 ❑ Building has a soil gas retarding system installed between the newly constructed space and the soil. (Include document reference for specifications.)	**Source of Information**

The proposed and baseline buildings comply with the mandatory requirements of ANSI/ASHRAE/USGBC/IES Standard 189.1-2009. Individual certifying authenticity of the data provided in this analysis:

Signature: Date:	
Printed Name: License/Registration #:	
Company Name:	

Indoor Environmental Quality (IEQ) Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§8.4.1: Daylighting by Sidelighting			
✓	❑	§8.4.1.1a: For office spaces and classrooms, all north-, south-, and east-facing facades have a minimum sidelighting effective aperture as prescribed in Table 8.4.1.1.	
		North-side facade sidelighting effective aperture: 0.171	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1a Part 1/2
		South-side façade sidelighting effective aperture: 0.157	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1a Part 1/2
		East-side facade sidelighting effective aperture: 0.149	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1a Part 1/2
✓	❑	§8.4.1.1b: For office spaces and classrooms, the combined width of the primary sidelighted areas is at least 75% of the length of the facade wall.	
		North-side combined width of the primary sidelighted areas: 27'-3 3/4"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 1
		North-side length of the wall: 37'-0 11/16"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 2
		South-side combined width of the primary sidelighted areas: 112'-10 11/16"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 1
		South-side length of the wall: 128'-11"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 2
		East-side combined width of the primary sidelighted areas: 69'-8 5/8"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 1
		East-side length of the wall: 84'-1 3/16"	173133A_CIC_Architectural.rvt, Schedule: ASHRAE 189.1-2009, 8.4.1.1b Part 2
❑	❑	§8.4.1.1c: Opaque interior surfaces of office spaces and classrooms in daylight areas have visible light reflectances greater than or equal to 80% for ceilings and 70% for partitions higher than 60 in. (1.54 m) in daylight areas.	
		Visible light reflectances of opaque interior ceiling surfaces:	Not provided at this level of detail.
		Visible light reflectances of opaque interior partitions higher than 60 in. (1.54 m):	Not provided at this level of detail.
		Exceptions §8.4.1.1: ❑ 1) Spaces with programming that requires dark conditions (e.g., photographic processing). ❑ 2) Spaces with toplighting in compliance with Section 8.3.4. ❑ 3) Daylight zones where the height of existing adjacent structures above the window is at least twice the distance between the window and the adjacent structures, measured from the top of the glazing.	
✓	❑	§8.4.1.2: Each west-, south-, and east-facing façade of office spaces, has been designed with a shading projection whose PF is not less than 0.5.	
		1) West-facing façade shading PF: 0.51	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance
		or	
		1) West-facing façade shading interior PF:	
		2) South-facing façade shading PF: 0.51	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance
		or	
		2) South-facing façade shading interior PF:	

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Complies	Not applicable	Requirement	Document Reference
		3) East-facing façade shading PF: 0.51 or 3) East-facing façade shading interior PF:	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance
✓	❑	§8.4.1.2a and b: Office spaces use one or more of the following shading devices: a. Louvers, sun shades, light shelves, and any other permanent device. b. Building self-shading through roof overhangs or recessed windows.	

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Complies	Not applicable	Requirement	Document Reference
§8.4.1: Daylighting by Sidelighting Cont.			
❑	✓	§8.4.1.2a: A vertical fenestration that employs a combination of interior and external shading has been separated into multiple segments for compliance purposes. Each segment complies with the requirements for either external or interior PF. Attach additional sheets following a format similar to below: Segment A: 1) West-facing façade shading PF: Segment B: 1) West-facing façade shading interior PF: Segment C: 1) West-facing façade shading interior PF: Segment D: 2) South-facing façade shading PF: Segment E: 2) South-facing façade shading interior PF:	
		Exceptions §8.4.1.2: ❑ 1) Translucent panels and glazing systems with a measured haze value greater than 90%, tested according to ASTM D1003 (notwithstanding its scope) or other test method approved by the AHJ, and that are entirely 8 ft (2.5 m) above the floor, do not require external shading devices. ❑ 2) Vertical fenestration that receives direct solar radiation for less than 250 hours per year because of shading by permanent external buildings, existing permanent infrastructure, or topography.	
§8.4.2: Materials			
❑	❑	§8.4.2: Reported emissions or VOC contents of materials specified below are from a representative product sample and conducted with each product reformulation or at a minimum every three years	Not provided at this level of detail.
❑	❑	§8.4.2: Products certified under third-party certification programs as meeting the specific emission or VOC content requirements listed below are exempted from this three-year testing requirement but shall meet all the other requirements listed below.	Not provided at this level of detail.
		§8.4.2.1: Adhesives and Sealants	
❑	❑	§8.4.2.1: All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on site) comply with the requirements of either Section 8.4.2.1.1 or 8.4.2.1.2. (Include document reference to specifications.)	Not provided at this level of detail.
❑	❑	§8.4.2.1.1: Emissions of adhesives and sealants have been determined according to CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350) and comply with the limit requirements for either office or classroom spaces, regardless of the space type. (Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.

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§8.4.2: Materials Cont.			
❑	❑	§8.4.2.1.2: VOC content complies with and has be determined according to the following limit requirements: (Attach a separate summary sheet and insert document reference.) a. Adhesives, sealants and sealant primers: SCAQMD Rule 1168. HVAC duct sealants have been classified as "Other" category within the SCAQMD Rule 1168 sealants table. b. Aerosol adhesives: Green Seal Standard GS-36.	Not provided at this level of detail.
		Exceptions §8.4.2.1: Not required to meet the emissions or the VOC content requirements: ❑ 1) Cleaners, solvent cements, and primers used with plastic piping and conduit in plumbing, fire suppression, and electrical systems. ❑ 2) HVAC air duct sealants when the air temperature of the space in which they are applied is less than 40°F (4.5°C).	Not provided at this level of detail.
		§8.4.2.2: Paints and Coatings	
❑	❑	§8.4.2.2: Paints and coatings used on the interior of the building (defined as inside of the weatherproofing system and applied on site) comply with either Section 8.4.2.2.1 or 8.4.2.2.2. (Include document reference to specifications.)	Not provided at this level of detail.
❑	❑	§8.4.2.2.1: Emissions of paints and coatings have been determined according to CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350) and comply with the limit requirements for either office or classroom spaces, regardless of the space type. (Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.
		or	
❑	❑	§8.4.2.2.2: VOC content complies with and has be determined according to the following limit requirements: (Attach a separate summary sheet and insert document reference.) a. Architectural paints, coatings, and primers applied to interior surfaces: Green Seal Standard GS-11. b. Clear wood finishes, floor coatings, stains, sealers, and shellacs: SCAQMD Rule 1113.	Not provided at this level of detail.
		§8.4.2.3: Floor Covering Materials	
❑	❑	§8.4.2.3a: Carpet has been tested in accordance with and shown to be compliant with the requirements of CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350). Products that have been verified and labeled to be in compliance with Section 9 of the CA/DHS/EHLB/R-174 comply with this requirement. (Include document reference to specifications. Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.
❑	❑	§8.4.2.3b: Hard surface flooring in office spaces and classrooms has been tested in accordance with and shown to be compliant with the requirements of CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350). (Include document reference to specifications. Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.
		§8.4.2.4: Composite Wood, Wood Structural Panel, and Agrifiber Products	
❑	❑	§8.4.2.4: All composite wood, wood structural panel, and agrifiber products contain no added urea-formaldehyde resins. (Include document reference to specifications. Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.

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Complies	Not applicable	Requirement	Document Reference
❑	❑	§8.4.2.4: All laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies contain no added urea-formaldehyde resins. (Include document reference to specifications. Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.

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Complies	Not applicable	Requirement	Document Reference
§8.4.2: Materials Cont.			
❑	❑	§8.4.2.4: If the no-added-urea-formaldehyde requirement cannot be met for a specific product (noted below), the project complies with one of the following (attach additional sheets if necessary):	Not provided at this level of detail.
		Name of product, manufacturer and supplier:	
		❑ California Air Resource Board's (CARB) regulation "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products," as shown through third-party certification approved by CARB. ❑ CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350) and shall comply with the limit requirements for either office or classroom spaces regardless of the space type.	
		❑ Exception §8.4.2.4: Structural panel components such as plywood, particle board, wafer board, and oriented strand board identified as "EXPOSURE 1," "EXTERIOR," or "HUD-APPROVED" are considered acceptable for interior use.	
		§8.4.2.5: Office Furniture Systems and Seating	
❑	❑	§8.4.2.5: All office furniture systems and seating installed prior to occupancy have been tested according to ANSI/BIFMA Standard M7.1.	Not provided at this level of detail.
❑	❑	§8.4.2.5: At least 95% of total number of installed office workstations and 95% of total number of seating units installed meet either the emissions concentration limits in Standard M7.1's Table E1.1 or the emission factors in Table E1.2.	Not provided at this level of detail.
❑	❑	§8.4.2.5: At least 50% of the total number of installed office workstations and 50% of the total number of seating units installed meet the VOC concentration limits of Table E1.3.	Not provided at this level of detail.
		§8.4.2.6: Ceiling and Wall Systems	
❑	❑	§8.4.2.6: Emissions of all ceiling and wall systems have been determined according to CA/DHS/EHLB/R-174 (commonly referred to as California Section 01350) and comply with the limit requirements for either office or classroom spaces regardless of the space type. (Include document reference to specifications. Attach a separate summary sheet and insert document reference.)	Not provided at this level of detail.

The proposed and baseline buildings comply with the mandatory requirements of ANSI/ASHRAE/USGBC/IES Standard 189.1-2009 and meet the Prescriptive Option requirements. Individual certifying authenticity of the data provided in this analysis:

Signature: Date:	
Printed Name: License/Registration #:	
Company Name:	

Energy Efficiency Compliance Documentation – Mandatory

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Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§7.3.1: General			
❑	❑	§7.3.1: The building project has been designed to comply with Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 of ANSI/ASHRAE/IESNA Standard 90.1.	
§7.3.2: On-Site Renewable Energy Systems			
❑	❑	§7.3.2: The building project provides for the future installation of on-site renewable energy systems with a minimum rating of 3.7 W/ft^2 or 13 Btu/h·ft^2 (40 W/m^2) multiplied by the total roof area in ft^2 (m^2).	
❑	❑	§7.3.2: The building project design shows allocated space and pathways for installation of on-site renewable energy systems and associated infrastructure. ❑ Exception: The building project has an annual daily average incident solar radiation (available to a flat plate collector oriented due south at an angle from horizontal equal to the latitude of the collector location) of less than 4.0 kW/m^2·day, accounting for existing buildings, permanent infrastructure that is not part of the building project, topography, or	
§7.3.3: Energy Consumption Management			
❑	❑	§7.3.3.1: Measurement devices with remote communication capability have been provided to collect energy consumption data for each energy supply source to the building (including gas, electricity, and district energy) that exceeds the thresholds listed in Table 7.3.3.1A. Measurement devices have the capability to automatically communicate energy consumption data to a data acquisition system.	Not provided at this level of detail.
❑	❑	§7.3.3.1: For all buildings that exceed the thresholds in Table 7.3.3.1A, measurement devices with remote capability (including current sensors or flow meters) have been provided to measure energy consumption data of each subsystem for each use category that exceeds the thresholds listed in Table 7.3.3.1B. Measurement devices have the capability to automatically communicate energy consumption data to a data acquisition system.	Not provided at this level of detail.
❑	❑	§7.3.3.2: All building measurement devices have been configured to automatically communicate energy data to the data acquisition system.	Not provided at this level of detail.
❑	❑	§7.3.3.2: All building measurement devices provide daily data and record hourly energy profiles. The hourly energy profiles are capable of being used to assess building performance at least monthly.	Not provided at this level of detail.
❑	❑	§7.3.3.3: The data acquisition system is capable of electronically storing the data from the measurement devices and other sensing devices for a minimum of 36 months, and creating user reports showing hourly, daily, monthly, and annual energy consumption. ❑ Exception: Portions of buildings used as residential.	Not provided at this level of detail.

The proposed and baseline buildings comply with the mandatory requirements of ANSI/ASHRAE/USGBC/IES Standard 189.1-2009. Individual certifying authenticity of the data provided in this analysis:

Signature: Date:	
Printed Name: License/Registration #:	
Company Name:	

Energy Efficiency Compliance Documentation – Prescriptive

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Complies	Not applicable	Requirement	Document Reference
§7.4.1: General			
❑	❑	§7.4.1: When a requirement is provided below, it supersedes the requirement in ANSI/ASHRAE/IESNA Standard 90.1. For all other criteria, the building project complies with the requirements of ANSI/ASHRAE/IESNA Standard 90.1.	
§7.4.1.1: On-Site Renewable Energy Systems			
✓	❑	§7.4.1.1: The building project contains on-site renewable energy systems that together provide annual energy production equivalent to not less than 6.0 KBtu/ft^2 (20 kWh/m^2) of conditioned space. ❑ Exception: The building demonstrates compliance with both of the following and is not required to have an on-site renewable energy system: 1. An annual daily average incident solar radiation available to a flat plate collector oriented due south at an angle from horizontal equal to the latitude of the collector location of less than 4.0 kW/m^2·day, accounting for existing buildings, permanent infrastructure that is not part of the building project, topography, and trees. 2. Purchase of renewable electricity products complying with the Green-e Energy National Standard for Renewable Electricity Products of at least 7 kWh/ft^2 (75 kWh/m^2) of conditioned space each year until the cumulative purchase totals 70 kWh/ft^2 (750 kWh/m^2) of conditioned space.	Design Analysis, Appendix E: Energy Modeling
§7.4.2: Building Envelope			
❑	❑	§7.4.2: The building envelope complies with Section 5 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions.	
✓	❑	§7.4.2.1: The building envelope complies with the requirements in Tables A-1 to A-8 in Normative Appendix A. These requirements supersede the requirements in Tables 5.5-1 to 5.5-8 of ANSI/ASHRAE/IESNA Standard 90.1. ❑ Exception: Buildings that comply with Section 8.3.4 regardless of building area are exempt from the SHGC criteria for skylights.	Design Analysis, Appendix A: Project Tracking Sheet
✓	❑	§7.4.2.2: Roofs comply with the provisions of Section 5.3.2.3 and Tables A-1 to A-8 of this standard. Section 5.5.3.1.1 of ANSI/ASHRAE/IESNA Standard 90.1 and Table 5.5.3.1 of ANSI/ASHRAE/IESNA Standard 90.1 were not used.	Design Analysis, Appendix A: Project Tracking Sheet
❑	✓	§7.4.2.3: Single-rafter roofs comply with the requirements in Table A-9 in Normative Appendix A. These requirements supersede the requirements in Section A2.4.2.4 of ANSI/ASHRAE/IESNA Standard 90.1. Section A2.4.2.4 and Table A2.4.2 of ANSI/ASHRAE/IESNA Standard 90.1 were not used.	
✓	❑	§7.4.2.4: The total vertical fenestration area is less than 40% of the gross wall area. This requirement supersedes the requirement in Section 5.5.4.2.1 of ANSI/ASHRAE/IESNA Standard 90.1.	Design Analysis, Appendix A: Project Tracking Sheet
❑	❑	§7.4.2.5: For climate zones 1–5, the vertical fenestration on the west, south, and east is shaded by permanent projections that have an area-weighted average PF of not less than 0.50. ❑ Exception: Vertical fenestration that receives direct solar radiation for fewer than 250 hours per year because of shading by permanent external buildings, existing permanent infrastructure, or topography.	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance

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§7.4.2: Building Envelope Cont.			
✓	❑	§7.4.2.6: For SHGC compliance, the methodology in exception (b) to Section 5.5.4.4.1 of ANSI/ASHRAE/IESNA Standard 90.1 were applied (provided that the SHGC multipliers in Table 7.4.2.6 are used). This requirement supersedes the requirement in Table 5.5.4.4.1 of ANSI/ASHRAE/IESNA Standard 90.1. Table 5.5.4.4.1 of ANSI/ASHRAE/IESNA Standard 90.1 was not applied.	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance
✓	❑	§7.4.2.6: The vertical fenestration is north-oriented and has a maximum SHGC of 0.10 greater than that specified in Tables A-1 through A-8 in Normative Appendix A. Separate calculations were performed for these sections of the building envelope, and these values were not averaged with any others for compliance purposes.	A-603, Window Schedule
✓	❑	§7.4.2.7: For vestibules, the exceptions to Section 5.4.3.4 of ANSI/ASHRAE/IESNA Standard 90.1 were applied (provided that climate zone 4 is deleted from exception (e) to Section 5.4.3.4 of ANSI/ASHRAE/IESNA Standard 90.1 and that climate zone 4 is added to exception (f) to Section 5.4.3.4 of ANSI/ASHRAE/IESNA Standard 90.1).	
✓	❑	§7.4.2.8: The building envelope trade-off option in Section 5.6 of ANSI/ASHRAE/IESNA Standard 90.1 was not applied (unless the procedure incorporates the modifications and additions to ANSI/ASHRAE/IESNA Standard 90.1 noted in Section 7.4.2).	
✓	❑	§7.4.2.9a: To reduce solar gains from the east and west in climate zones 1 through 4, the fenestration area and SHGC complies with the calculation in 7.4.2.9a.	173133A_CIC_BTH_Architectural: Schedule: ASHRAE 189.1-2009, 7.4.2.9a Part 1/2
❑	✓	§7.4.2.9b: To reduce solar gains from the west in climate zones 5 and 6, the fenestration area and SHGC complies with the calculation in 7.4.2.9b. Exceptions 7.4.2.9: ❑ a. Vertical fenestration that complies with the exception to Section 5.5.4.4.1 (c) of ANSI/ASHRAE/IESNA Standard 90.1. ❑ b. Buildings that have an existing building or existing permanent infrastructure within 20 ft (6 m) to the south or north that is at least half as tall as the proposed building. ❑ c. Buildings with shade on 75% of the west- and east-oriented vertical fenestration areas from existing buildings, existing permanent infrastructure, or topography at 9 a.m. and 3 p.m. on the summer solstice. ❑ d. Alterations and additions with no increase in vertical fenestration area.	
✓	❑	§7.4.2.10: The building envelope was designed and constructed with a continuous air barrier that complies with Normative Appendix B to control air leakage into, or out of, the conditioned space. All air barrier components of each envelope assembly are clearly identified on construction documents and the joints, interconnections, and penetrations of the air barrier components are detailed. ❑ Exception: Building envelopes of semiheated spaces provided that the building envelope complies with Section 5.4.3.1 of ANSI/ASHRAE/IESNA Standard 90.1.	Sheet A-311: This requirement is partially fulfilled--the remainder of the documentation requirements are not provided at this level of detail.

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Complies	Not applicable	Requirement	Document Reference
§7.4.3: Heating, Ventilating, and Air Conditioning			
❑	❑	§7.4.3: The heating, ventilating, and air conditioning complies with Section 6 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions.	
❑	❑	§7.4.3.1: The Project complies with one of the following: ❑ a. EPAct baseline. Products comply with the minimum efficiencies addressed in the National Appliance Energy Conservation Act (NAECA), Energy Policy Act (EPAct), and the Energy Indepen-dence and Security Act (EISA), or ❑ b. Higher Efficiency. Products comply with the greater of the ENERGY STAR requirements in Section 7.4.7.3 and the values in Normative Appendix C. These requirements supersede the requirements in Tables 6.8.1A to 6.8.1J of ANSI/ASHRAE/IESNA Standard 90.1. The building project complies with Sections 7.4.1.1 and 7.4.5.1 with the following modifications: 1. The on-site renewable energy systems required in Section 7.4.1.1 shall provide an annual energy production of not less than 4.0 kBtu/ft2 (13 kWh/m2). 2. The peak load reduction systems required in Section 7.4.5.1 shall be capable of reducing electric peak demand by not less than 5% of the projected peak demand.	Not provided at this level of detail.
❑	❑	§7.4.3.2: DCV is used for densely occupied spaces. This requirement supersedes the occupant density threshold in Section 6.4.3.9 of ANSI/ASHRAE/IESNA Standard 90.1.	
❑	❑	§7.4.3.2: The DCV system is designed to be in compliance with ANSI/ASHRAE Standard 62.1. Occupancy assumptions are shown in the design documents for spaces required to have DCV. All CO2 sensors used as part of a DCV system or any other system that dynamically controls outdoor air shall meet requirements a through d as listed in 7.4.3.2.	
❑	❑	§7.4.3.3: For duct sealing, Seal Level A was be used. This requirement supersedes the requirements in Table 6.4.4.2A of ANSI/ASHRAE/IESNA Standard 90.1.	Not provided at this level of detail.
❑	❑	§7.4.3.4: Systems have economizers meeting the requirements in Section 6.5.1 of ANSI/ASHRAE/IESNA 90.1 except as noted in 1 through 4 of 7.4.3.4. ❑ Exception: All the exceptions in Sections 6.5.1 and 6.5.1.3 of ANSI/ASHRAE/IESNA Standard 90.1 apply except as noted in 1 through 3 in 7.4.3.4 Exceptions.	Not provided at this level of detail.
❑	❑	§7.4.3.5: Exception (a) to Section 6.5.2.1 of ANSI/ASHRAE/IESNA Standard 90.1 have been replaced by the following: zones for which the volume of air that is reheated, re-cooled, or mixed is not greater than the larger of (1) the design outdoor airflow rate for the zone, or (2) 15% of the zone design peak supply rate.	Not provided at this level of detail.
❑	❑	§7.4.3.6: Systems have fan power limitations 10% below limitations specified in Table 6.5.3.1.1A of ANSI/ASHRAE/IESNA Standard 90.1. This requirement supersedes the requirement in Section 6.5.3.1 and Table 6.5.3.1.1A of ANSI/ASHRAE/IESNA Standard 90.1. All exceptions in Section 6.5.3.1 of ANSI/ASHRAE/IESNA Standard 90.1 shall apply.	Not provided at this level of detail.
❑	❑	§7.4.3.7a: DX systems with a capacity greater than 65,000 Btu/h (19 kW) have a minimum of two stages of cooling capacity.	Not provided at this level of detail.
❑	✓	§7.4.3.7b: Air-handling and fan-coil units with chilled-water cooling coils and supply fans with motors greater than or equal to 5 hp have their supply fans controlled by two-speed motors or variable-speed drives. At cooling demands less than or equal to 50%, the supply fan controls are able to reduce the airflow to no greater than the larger of the following: 1. Two-thirds of the full fan speed, or 2. The volume of outdoor air required to meet the ventilation requirements of ANSI/ASHRAE Standard 62.1.	

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Complies	Not applicable	Requirement	Document Reference
§7.4.3: Heating, Ventilating, and Air Conditioning Cont.			
❑	❑	§7.4.3.7c: All air-conditioning equipment and air-handling units with direct expansion cooling and a cooling capacity at AHRI conditions greater than or equal to 110,000 Btu/h (32.2 kW) that serve single zones have their supply fans controlled by two-speed motors or variable-speed drives. . At cooling demands less than or equal to 50%, the supply fan controls are able to reduce the airflow to no greater than the larger of the following: 1. Two-thirds of the full fan speed, or 2. The volume of outdoor air required to meet the ventilation requirements of ANSI/ASHRAE Standard 62.1.	Not provided at this level of detail.
❑	❑	§7.4.3.7d: d. All DX and chilled-water VAV units are equipped with variable-speed fans that result in less than 30% power at 50% flow. ❑ Exception 7.4.3.7: When air ventilation rates or air exchange rates require constant volume fan operation.	Not provided at this level of detail.
❑	❑	§7.4.3.8: Each fan system has an energy recovery system when the system's supply airflow rate exceeds the value listed in Table 7.4.3.8 based on the climate zone and percentage of outdoor air at design condi-tions. Where a single room or space is supplied by multiple units, the aggregate supply cfm (L/s) of those units was used in applying this requirement.	Not provided at this level of detail.
❑	❑	§7.4.3.8: Energy recovery systems required by this section have at least 60% energy recovery effectiveness. Sixty percent energy recovery effectiveness shall mean a change in the enthalpy of the outdoor air supply equal to 60% of the difference between the outdoor air and return air enthalpies at design condi-tions. Provisions have been made to bypass or control the energy recovery system to permit air economizer operation as required by Section 7.4.3.4.	Not provided at this level of detail.
❑	✓	§7.4.3.9: In addition to the requirements in Section 6.5.7.1 of ANSI/ASHRAE/IESNA Standard 90.1, commercial kitchen Type I and Type II hood systems have variable-speed control for exhaust and makeup air fans to reduce hood airflow rates at least 50% during those times when cooking is not occurring and the cooking appliances are up to temperature in a standby, ready-to-cook mode. All exceptions in Section 6.5.7.1 of ANSI/ASHRAE/IESNA Standard 90.1 shall apply.	
❑	❑	§7.4.3.10: Duct insulation complies with the minimum requirements in Tables C-9 and C-10 in Normative Appendix C. These requirements supersede the requirements in Tables 6.8.2A and 6.8.2B of ANSI/ASHRAE/IESNA Standard 90.1.	Not provided at this level of detail.
❑	❑	§7.4.3.11: Pipe insulation complies with the minimum requirements in Table C-11 in Normative Appendix C. These requirements supersede the requirements in Table 6.8.3 of ANSI/SHRAE/IESNA Standard 90.1. The exceptions a through e in Section 6.4.4.1.3 of ANSI/ASHRAE/IESNA Standard 90.1 shall apply.	Not provided at this level of detail.
❑	✓	§7.4.3.12: In hotels and motels with over 50 guest rooms, the lighting switched outlets, television, and HVAC equipment serving each guest room are automatically controlled such that the lighting, switched outlets, and televisions will be turned off and the HVAC setpoint raised at least 5°F (3°C) in the cooling mode and lowered at least 5°F (3°C) in the heating mode whenever the guest room is unoccupied.	

Energy Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§7.4.4: Service Water Heating			
❑	❑	§7.4.4: The service water heating complies with Section 7 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions.	
❑	❑	§7.4.4.1: Equipment complies with the minimum efficiencies in Table C-12 in Normative Appendix C. These requirements supersede the requirements in Table 7.8 of ANSI/ASHRAE/IESNA Standard 90.1.	Not provided at this level of detail.
❑	❑	§7.4.4.2: Pipe insulation complies with Section 7.4.3.11. These requirements supersede the requirements in Section 7.4.3 of ANSI/ASHRAE/IESNA Standard 90.1.	Not provided at this level of detail.
❑	✓	§7.4.4.3: Pools heated to more than 90°F (32°C) have side and bottom surfaces insulated on the exterior with a minimum insulation value of R-12 (R-2.1).	
§7.4.5: Power			
❑	❑	§7.4.5: The power complies with Section 8 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions.	
❑	❑	§7.4.5.1: The Building project contains automatic systems, such as demand limiting or load shifting, that are capable of reducing electric peak demand of the building by not less than 10% of the projected peak demand. Standby power generation is not used to achieve the reduction in peak demand.	Not provided at this level of detail.
§7.4.6: Lighting			
❑	❑	§7.4.6: The lighting complies with Section 9 of ANSI/ASHRAE/IESNA Standard 90.1 as modified by Addendum i and the following modifications and additions.	
✓	❑	§7.4.6.1: The lighting power allowance is a maximum of 0.9 multiplied by the values determined in accordance with Sections 9.5 and 9.6. This requirement supersedes the requirements in Sections 9.5 and 9.6 of ANSI/ASHRAE/IESNA Standard 90.1.	173133A_CIC_BTH_Electrical.rvt: Schedule: ASHRAE 189.1 Lighting LPD
❑	❑	§7.4.6.2: Offices 250 ft2 (25 m2) or smaller; classrooms of any size; lecture, training, or vocational rooms of less than 1000 ft2 (100 m2); multipurpose rooms of less than 1000 ft2 (100 m2); conference rooms and meeting rooms less than 1000 ft2 (100 m2); and meeting centers are equipped with occupant sensor(s) to automatically turn lighting OFF within 30 minutes of all occupants leaving a space and allow “manual OFF” control. In addition, all occupancy sensor controls are either “manual ON” or bi-level “automatic ON” programmed to a low light level combined with multi-level circuitry and “manual ON” switching for higher light levels. Where such occupancy sensors are utilized within a daylit area and daylighting controls are utilized, the occupancy sensors work in conjunction with the daylighting controls complying with Section 7.4.6.5.	Not provided at this level of detail.
❑	❑	§7.4.6.3: The lighting in the areas listed in 7.4.63 are controlled by an occupant sensor with multi-level switching or dimming system that reduces lighting power a minimum of 50% when no persons are present. ❑ Exception: Areas lit by HID lighting with a lighting power density of 0.8 W/ft2 or less.	Not provided at this level of detail.
❑	❑	§7.4.6.4: Lighting in any area within a building that is required to be continuously illuminated for reasons of building security or emergency egress does not exceed 0.1 W/ft2 (1 W/m2). Any additional egress and security are controlled by an automatic control device that turns off the additional lighting.	Design Analysis, Appendix F: ANSI/ASHRAE Standard 189.1 Compliance

Energy Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§7.4.6: Lighting Cont.			
❑	❑	§7.4.6.5: Lighting in all daylight zones, including daylight zones under skylights and daylight zones adjacent to vertical fenestration, where the combined daylight zone per enclosed space is greater than 250 ft2 (25 m2), are provided with controls that automatically reduce lighting power in response to available daylight by either: ❑ a. Continuous daylight dimming, or ❑ b. A combination of stepped switching and daylight-sensing automatic controls, which are capable of incrementally reducing the light level in steps automatically and turning the lights off automatically. Exceptions: ❑ 1. Window display and exhibition lighting. ❑ 2. Conference rooms greater than 250 ft2 (25 m2) that have a lighting control system with at least four scene options. ❑ 3. Lighting in conference rooms that is dimmable and controlled by dimming controls that are located within the space and accessible to the space occupants. ❑ 4. Saunas, steam rooms, and spaces containing swimming pools or spa pools. ❑ 5. Spaces where medical procedures are performed. ❑ 6. Spaces within dwelling units. ❑ 7. Spaces within hotel and motel guest rooms and suites. ❑ 8. Daylight zones where the height of existing adjacent structures above the window is at least twice the distance between the window and adjacent structures, measured from the top of the glazing.	Not provided at this level of detail.
❑	❑	§7.4.6.6: Occupancy sensors have “manual ON”, “automatic OFF” controls. ❑ Exception: Occupancy sensor controls required in Section 7.4.6.3.	Not provided at this level of detail.
❑	❑	§7.4.6.7: All outdoor lighting controls comply with Section 9 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions. For lighting of building facades, parking lots, garages, canopies (sales and non-sales), and all outdoor sales areas, automatic controls are installed to reduce the sum of all lighting power (in watts) by a minimum of 50% one hour after normal business closing and to turn off outdoor lighting within 30 minutes after sunrise. Exceptions: ❑ 1. Lighting required by a health or life safety statute, ordinance, or regulation, including but not limited to, emergency lighting. ❑ 2. Lighting that is controlled by a motion sensor and photocontrol. ❑ 3. Lighting for facilities that have equal lighting requirements at all hours and are designed to operate conti-nuously. ❑ 4. Temporary outdoor lighting. ❑ 5. Externally illuminated signs and signs that are internally illuminated or have integral lamps.	Not provided at this level of detail.

Energy Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§7.4.7: Other Equipment			
❑	❑	§7.4.7: All other equipment complies with Section 10 of ANSI/ASHRAE/IESNA Standard 90.1 with the following modifications and additions.	
❑	❑	§7.4.7.1: Motors comply with the minimum requirements in Table C-13 in Normative Appendix C. These requirements supersede the requirements in Section 10.4.1 and Table 10.8 of ANSI/ASHRAE/IESNA Standard 90.1.	Not provided at this level of detail.
❑	❑	§7.4.7.2: Supermarkets with a floor area of 25,000 ft^2 (2500 m^2) or greater recover waste heat from the condenser heat rejection on permanently installed refrigeration equipment meeting *one* of the following criteria: ❑ 1. 25% of the refrigeration system full load total heat rejection. ❑ 2. 80% of the space heat, service water heating and dehumidification reheat.	Not provided at this level of detail.
❑	❑	§7.4.7.2: If a recovery system is installed in the refrigeration system, the system does not increase the saturated condensing temperature at design conditions by more than 5°F (3°C) and does not impair other head pressure control/energy reduction strategies.	Not provided at this level of detail.
❑	❑	§7.4.7.3: The following equipment within the scope of the applicable Energy Star program complies with the relevant criteria required to achieve the Energy Star label, if installed prior to the issuance of the certificate of occupancy (see Section 7.4.7.3 a–h for a complete equipment list): ❑ a. Appliances ❑ b. Heating and cooling equipment ❑ c. Electronics ❑ d. Office equipment ❑ e. Water heaters ❑ f. Lighting ❑ g. Commercial food service equipment ❑ h. Other products ❑ Exception: Products with minimum efficiencies addressed in the Energy Policy Act (EPAct) and the Energy Independence and Security Act (EISA), if the project complies with Section 7.4.3.1a.	Not provided at this level of detail.
❑	✓	§7.4.7.4a: Commercial refrigerators and freezers comply with the minimum efficiencies in Table C-14 in Normative Appendix C.	
❑	✓	§7.4.7.4a: There are no prohibited open refrigerated display cases not covered by strips or curtains.	
❑	✓	§7.4.7.4a: Lighting loads for commercial reach-in refrigerator/freezer display cases, including all power supplies or ballasts, do not exceed 42 watts per door for case doors up to 5 ft (1.5 m) in height and 46 watts per door for case doors greater than 5 ft (1.5 m) in height.	
❑	✓	§7.4.7.4b: Commercial clothes washers comply with the minimum efficiencies in Table C-15 in Normative Appendix C.	

Energy Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§7.4.8: Energy Cost Budget			
✓	❑	§7.4.8: The Energy Cost Budget option in Section 11 of ANSI/ASHRAE/IESNA Standard 90.1 was not used.	

The proposed and baseline buildings comply with the mandatory requirements of ANSI/ASHRAE/USGBC/IES Standard 189.1-2009 and meet the Prescriptive Option requirements. Individual certifying authenticity of the data provided in this analysis:

Signature:	Date:	
Printed Name:	License/Registration #:	
Company Name:		

Water Use Efficiency Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
§6.3.1: Site Water Use Reductions			
❑	❑	§6.3.1.1: Minimum of 60% of the area of the improved landscape shall be in bio-diverse planting of native plants and adapted plants other than turfgrass. ❑ Exception: Athletic fields, golf courses and driving ranges shall be excluded from this requirement for schools, residential common areas, or public recreational facilities.	
❑	❑	§6.3.1.2: Automatic irrigation systems have been hydrozoned to water different plant materials.	
❑	❑	§6.3.1.2: Sprinklers are not spraying water directly on a building and are not located within 3 ft (0.92 m) of any building.	
❑	❑	§6.3.1.3: Irrigation system is controlled by a qualifying smart controller.	
❑	❑	§6.3.1.3: Smart controller uses evapotranspiration and weather data or on-site rain sensors or moisture sensors to adjust irrigation schedules.	
❑	❑	§6.3.1.3: Qualifying smart controllers meet the following minimum requirements: irrigation adequacy – 80 % min ET_o; irrigation excess – not to exceed 10%. ❑ Exception: Temporary irrigation systems used for plant establishment are exempt from this requirement.	
§6.3.2: Building Water Use Reductions			
✓	❑	§6.3.2.1a: Water closets (flushometer) have a max flush rate of 1.28 gal (4.8 L) per flush.	The flush rate is included in the "Type Comment" parameter for each fixture type in the Architectural BIM.
❑	✓	§6.3.2.1b: Water closets (tank-type) have a max flush rate of 1.28 gal (4.8 L) per flush.	Tank-type fixtures are not used in the design.
✓	❑	§6.3.2.1c: Urinals have a max flush rate of 0.5 gal (1.9 L) per flush.	The flush rate is included in the "Type Comment" parameter for each fixture type in the Architectural BIM.
✓	❑	§6.3.2.1d: Public lavatory faucets have a max flow rate of 0.5 gpm (1.9 L/min).	The flow rate is included in the "Type Comment" parameter for each fixture type in the Architectural BIM.
❑	✓	§6.3.2.1e: Public metering faucets have a max flow rate of 0.25 gal (1.0 L) per cycle.	Metering faucets are not used in the design.
❑	✓	§6.3.2.1f: Residential lavatory faucets have a max flow rate of 1.5 gpm (5.7 L/min).	Residential lavatory faucets are not used in the design.
✓	❑	§6.3.2.1g: Residential kitchen faucets have a max flow rate of 2.2 gpm (8.3 L/min).	The flow rate is included in the "Type Comment" parameter for each fixture type in the Architectural BIM.
❑	✓	§6.3.2.1h: Residential showerheads have a max flow rate of 2.0 gpm (7.6 L/min).	Shower heads are not used in the design.
❑	❑	§6.3.2.1i: Residential shower compartments have a max flow rate of 2.0 gpm (7.6 L/min). ❑ Exception: If the shower compartment exceeds 2,600 in^2 (1.7 m^2), an additional flow of 2.0 gpm (7.6 L/min) is permitted.	The flow rate is not included in the shower compartment family.
❑	✓	§6.3.2.2a: Dwelling unit clothes washers comply with the ENERGY STAR Program Requirements and have a max water factor of 6.0 gal/ft^3 or 800 L/m^3 of drum capacity.	
❑	✓	§6.3.2.2a: Dwelling unit dishwashers comply with the ENERGY STAR Program Requirements and have a max water factor of 5.8 gal or 22 L/full operating cycle.	
❑	✓	§6.3.2.2b: Publicly accessible clothes washer have a max water factor of 7.5 gal/ft^3 or 1000 L/m^3 of drum capacity.	
❑	✓	§6.3.2.3a: Potable water has not been used for once-through cooling.	

Water Use Efficiency Compliance Documentation – Mandatory

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
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Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Mandatory Provisions

Complies	Not applicable	Requirement	Document Reference
❑	❑	§6.3.2.3b: Cooling towers have makeup and blowdown meters, conductivity controllers, and overflow alarms.	Not provided at this level of detail.
❑	❑	§6.3.2.3b: Cooling towers have efficient drift eliminators.	Not provided at this level of detail.
❑	❑	§6.3.2.3b: Drift reductions amount to a max of 0.002% of the recirculated water volume for counterflow towers and 0.005% of the recirculated water flow for cross-flow towers.	Not provided at this level of detail.
❑	❑	§6.3.2.3c: Condensate from AC units with a capacity > 65,000 Btu/h is recovered for reuse.	There are no AC units greater than 65 MBh in the design.
❑	✓	§6.3.2.3c: Condensate from steam systems is recovered for reuse.	Steam is not accounted for in the design.
❑	✓	§6.3.2.4a: Potable water has not been used for roof spray systems to thermally condition the roof.	Roof spray systems are not included in the design.
❑	❑	§6.3.2.4b: Potable water might have been used during the plant establishment period, but it has not been used to permanently irrigate the vegetated landscape.	
§6.3.3: Water Consumption Measurement			
❑	❑	§6.3.3.1: Measurement devices with remote communication capability have been provided to collect the water consumption data for each water supply source (e.g., potable, reclaimed, rainwater) to the building that exceeds the thresholds listed in Table 6.3.3A.	Not provided at this level of detail.
❑	❑	§6.3.3.1: Both potable and reclaimed water entering the building are being monitored or sub-metered.	Not provided at this level of detail.
❑	❑	§6.3.3.1: Sub-meters have been provided for individual leased, rented, or other tenant or sub-tenant space with any building totaling > 50,000 ft^2 (5000 m^2).	Not provided at this level of detail.
❑	❑	§6.3.3.1: Sub-meters have been provided for any project, building, tenant, or sub-tenant space within a project or building where water consumption > 1,000 gal/day (3800 L/day).	Not provided at this level of detail.
❑	❑	§6.3.3.2: Measurement devices installed on systems using more than 1,000 gal/day (3800 L/day) of water are configured to communicate water consumption data to a meter data management system. At a minimum meters provide daily data and record hourly consumption	Not provided at this level of detail.
❑	❑	§6.3.3.2: Sub-metering with remote communication capabilities has been provided to collect water use data for each of the subsystems listed in Table 6.3.3B.	Not provided at this level of detail.
❑	❑	§6.3.3.3: The meter data management system is capable of electronically storing water meter, monitoring systems, and sub-meter data.	Not provided at this level of detail.
❑	❑	§6.3.3.3: The meter data management system creates user reports showing calculated hourly, daily, monthly, and annual water consumption for each measurement device and sub-meter.	Not provided at this level of detail.
❑	❑	§6.3.3.3: The meter data management system provides alarm notification capabilities to support the requirements of §10.3.2.1.2.	Not provided at this level of detail.

The proposed and baseline buildings comply with the mandatory requirements of ASHRAE/USGBC/IES Standard 189.1-2009. Individual certifying authenticity of the data provided in this analysis:

Signature: Date:	
Printed Name: License/Registration #:	
Company Name:	

Water Use Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
§6.4.1: Site Water Use Reductions			
❑	❑	§6.4.1: Golf courses and driving ranges use only municipally-reclaimed water and/or alternate on-site sources of water; in other landscaped areas, a maximum of one third of *improved landscape* area is irrigated with potable water – all other irrigation is provided from alternate on-site sources or municipally reclaimed water.	
❑	❑	§6.4.1: Athletic fields have been excluded from the calculation of *improved landscape* for schools, residential common areas, and public recreational facilities.	
❑	❑	§6.4.1: Potable water has been temporarily used on newly installed landscape during the landscape establishment period.	
❑	❑	§6.4.1: The amount of potable water used during the landscape establishment period does not exceed 70% ET_o for turfgrass and 55% ET_o for other plantings.	
❑	❑	§6.4.1: Municipally reclaimed water is available at a water main within 200 ft (60 m) of the project site and has been used in lieu of potable water during the landscape establishment	
❑	❑	§6.4.1: Once the landscape establishment period ended, irrigation water use complied with the requirements listed in §6.3.1 and §6.4.1.	
§6.4.2: Building Water Use Reductions			
❑	❑	§6.4.2.1a: For cooling tower makeup water having < 200 ppm (200 mg/L) of total hardness (expressed as calcium carbonate), at least 5 cycles of concentration have been achieved.	Not provided at this level of detail.
❑	❑	§6.4.2.1b: For cooling tower makeup water having > 200 ppm (200 mg/L) of total hardness (expressed as calcium carbonate), at least 3.5 cycles of concentration have been achieved. ❑ Exception: Where the total dissolved solids concentration of the discharge water exceeds 1500 mg (1500 ppm/L), or silica exceeds 150 ppm (150 mg/L), measured as silicon dioxide, before the above cycles of concentration are reached.	Not provided at this level of detail.
❑	✓	§6.4.2.2a: Commercial food service operations use high-efficiency pre-spray valves per §6.4.2.2.	
❑	✓	§6.4.2.2b: Commercial food service operations use dishwashers that are ENERGY STAR certified.	
❑	✓	§6.4.2.2c: Commercial food service operations use boilerless/connectionless food steamers that consume no more than 2.0 gal/h (7.5 L/h).	
❑	✓	§6.4.2.2d: Commercial food service operations use combination ovens that consume no more than 10 gal/h (38 L/h).	
❑	✓	§6.4.2.2e: Commercial food service operations use air-cooled ice machines that are ENERGY STAR certified.	
❑	✓	§6.4.2.2f: Commercial food service operations are equipped with hands-free faucet controllers within the food preparation area of the kitchen and dish room, including pot sinks and washing	
❑	✓	§6.4.2.3a: Medical and lab facilities use only water-efficient steam sterilizers.	
❑	✓	§6.4.2.3a: Steam sterilizers use water-tempering devices that only allow water to flow when the discharge of condensate or hot water from the sterilizer > 140°F.	
❑	✓	§6.4.2.3a: Vacuum sterilizers use mechanical vacuum equipment in place of Venturi-type vacuum systems.	
❑	✓	§6.4.2.3b: Medical and lab facilities use film processor water recycling units where large frame X-ray films of more than 6 inches are processed. Small dental X-ray equipment is exempt from this requirement.	
❑	✓	§6.4.2.3c: Where the digital networks are installed, medical and lab facilities use digital imaging and radiography systems.	
❑	✓	§6.4.2.3d: Medical and lab facilities use a dry-hood scrubber system. For projects that determine wet scrubber systems are necessary, the scrubber is equipped with a water recirculation system.	

Water Use Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
Designer of Record:	Telephone:
Contact Person:	Telephone:
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Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
❑	✓	§6.4.2.3d: For medical and lab facilities that include hood washdown systems, the hood is equipped with self-closing valves	

Water Use Efficiency Compliance Documentation – Prescriptive

Project Name: U.S. Army Criminal Investigations Command--Battalion Headquarters	
Project Address:	Date: 12 September 2012
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City:	

Prescriptive Option

Complies	Not applicable	Requirement	Document Reference
Building Water Use Reductions Cont.			
❑	✓	§6.4.2.3e: Medical and lab facilities use only dry vacuum pumps, unless fire and safety codes require a liquid ring pump.	
❑	✓	§6.4.2.3f(1): For filtration processes in medical and lab facilities, pressure gauges are used to determine and display when to backwash or change cartridges.	
❑	✓	§6.4.2.3f(2): For ion exchange and softening processes in medical and lab facilities, recharge cycles have been set by volume of water treated or based upon conductivity or hardness.	
❑	✓	§6.4.2.3f(3): For reverse osmosis and nanofiltration equipment in medical and lab facilities with a capacity > 100 L/hour, reject water does not exceed 60% of the feed water and is used as scrubber feed water or for other beneficial uses on the project site.	
❑	✓	§6.4.2.3f(4): For medical and lab facilities, simple distillation has not been used as a means of water purification.	
❑	✓	§6.4.2.3g: Food service operations that are located within medical or lab faciliites comply with	
❑	✓	§6.4.3a: Ornamental fountains are supplied either by alternate on-site sources of water or municipally reclaimed water.	
❑	✓	§6.4.3a: Fountains are equipped with makeup water meters.	
❑	✓	§6.4.3a: Fountains are equipped with leak detection devices that shut off water flow if a leak of more than 1 gallon per hour is detected.	
❑	✓	§6.4.3a: Fountains are able to recirculate, filter, and treat all water for reuse within the system. ❑ Exception: For fountains where alternate on-site sources of water or municipally reclaimed water are not available with 500 ft (150 m) of the building project site, potable water is allowed to be used for water features with less than 10,000 gal (38,000 L) capacity.	
❑	✓	§6.4.3b(1): Pools and spas must recover filter backwash water for reuse on landscaping or other applications, or treat and reuse backwash water within the system.	
❑	✓	§6.4.3b(2): For pools and spas that use removable cartridges, only reusable cartridges and systems are used.	
❑	✓	equipment has been used that includes a pressure drop gauge to determine when the filter needs to be backwashed and a sight glass enabling the operator to determine when to stop the backwash cycle.	
❑	✓	§6.4.3b(3): If pool and spa splash troughs are provided, they drain back into the pool or spa.	

The proposed and baseline buildings comply with the mandatory requirements of ASHRAE/USGBC/IES Standard 189.1-2009 and meet the Prescriptive Option requirements. Individual certifying authenticity of the data provided in this analysis:

Signature: Date:	
Printed Name: License/Registration #:	
Company Name:	

PARSONS BRINCKERHOFF

Page: 1 of 1	
Made by: JPB	
Date: 10-Sep-2012	
Checked by:	
Date:	

Subject: ASHRAE 189.1-2009 Projection Factor Calculation/SHGC Multiplier

CIDC Battalion Headquarters

The minimum projection factor requirement is 0.5

PF = P/(D+H) P= 48 in.
D= 0 in.
PF= 0.91 H= 53 in.

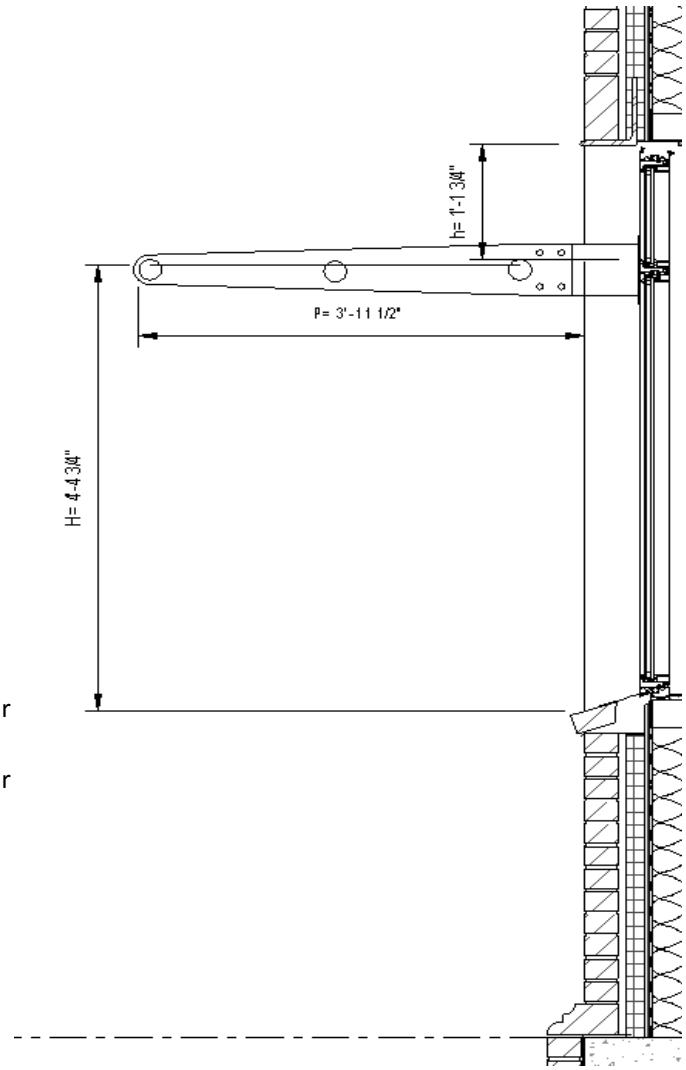
PF = p/(d+h) p= 0 in.
d= 0 in.
PF= 0.00 h= 14 in.

Pf_{avg}= 0.72

Check:

0.72 ≥ 0.50

0.72 → SHGC multiplier of 0.84 is allowed for E, S, W orientations.
SHGC multiplier of 0.94 is allowed for N orientation.



PARSONS BRINCKERHOFF Computation Sheet

page 1 of 1

made by RAGHI SINHA

date 09.12.2012

checked by

date

subject BAT HQ LPD CALCULATIONS

EMERGENCY LIGHTS : (2) 1W LED LAMP FIXTURES

002 - VESTIBULE WEST	: 41 ft^2 / 1 EMERGENCY LIGHTS	= 0.04 W/ft^2
105 - CORRIDOR	: 918 ft^2 / 4	= 0.01
131 - CORRIDOR	: 287 ft^2 / 2	= 0.01
003 - VESTIBULE NORTH	: 44 ft^2 / 1	= 0.04
101 - VISITOR WAITING	: 251 / 1	= 0.01
001 - ENTRY VESTIBULE	: 83 / 1	= 0.02