DIRECTOR'S INTERPRETATION

STANDATA

ADMINISTRATIVE GUIDE FOR STEEL STRUCTURES AND METAL BUILDING SYSTEMS

STANDARDS

Design, Fabrication and Erection of Structural Steel Components and Steel Buildings shall conform to the requirements of the following Standards:

CAN/CSA-S16.1-M89 "Limit States Design of Steel Structures"

CAN/CSA-S316-M89 "Cold Formed Steel Structural Members"

Part 4 of the Alberta Building Code

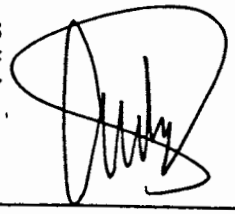
Fabrication of welded steel structures and erection of steel structures where field welding is involved shall be performed only by fabricators and erectors certified by the Canadian Welding Bureau. The requirements for Division 1 or Division 2.1 under CSA Standard W47.1-1983, "Certification of Companies for Fusion Welding of Steel Structures" or the requirements of CSA Standard W55.3-1965, "Resistance Welding Qualification Code for Fabricators of Structural Members Used in Buildings", apply.

If fusion welding is used, part of the work may be sublet to a Division 3 fabricators or erector, however, full responsibility shall remain with the Division 1 or Division 2.1 fabricator or erector.

The requirements for Canadian Welding Bureau certification applies to a fabricator or manufacturer of structural elements of any building where welding is involved including pre-engineered steel buildings.

ISSUE OF THIS INTERPRETATION IS AUTHORIZED UNDER ARTICLE 1.5.9.1. OF THE ALBERTA BUILDING CODE 1990 BY THE DIRECTOR, BUILDING STANDARDS

C.M. TYE



Alberta

Safety Standards Branch
705, 10808 - 99 Avenue, Edmonton, Alberta, Canada T5K 0G5

LABOUR
Work and Safety Division

Article 1.5.3.3. of the Alberta Building Code 1990 states:

> An owner shall submit evidence to the **authority having jurisdiction**, before construction begins, that all fabricators and erectors of welded construction for **buildings** constructed under Part 4, are certified by the Canadian Welding Bureau.

The Canadian Welding Bureau's Alberta office may be contacted by telephone at (403) 465-7788 or by writing to them at 8123 - 43 Street, EDMONTON, Alberta, T6B 2M3.

PROFESSIONAL RESPONSIBILITIES

1. If a building is framed with structural steel or exceeds the area limits set out in the Uniform Building Standards Act, the plans and specifications for the structural components of the building must be signed and sealed by a Professional Engineer registered or licensed to practice in the Province of Alberta. Standata bulletin 90-DI-002 gives further information on the requirements for professional seals.

2. The following information must be given to the authority having jurisdiction at the time of application for a permit for verification of compliance with the Alberta Building Code 1990:

   a. the name, address and telephone number of the persons responsible for the structural design.

   b. the issue of the Code and standards to which the design conforms;

   c. the dimensions, location and size of all structural members in sufficient detail to enable the design to be checked;

   d. sufficient detail to enable the loads due to materials of construction incorporated in the building to be determined (i.e., dead loads);

e. all loads, other than dead loads, used in the design of the structural members (i.e. occupancy, snow, rain, wind loads, seismic loads, etc.); and

f. all intended uses and occupancies.

3. Structural design of the foundation for a structural steel framed building must be carried out by a Professional Engineer, registered and/or licensed to practice in the province of Alberta, who must sign and seal the foundation plans and documents.

4. Sentence 1.5.2.1.(2) of the Alberta Building Code 1990 **requires professional review during the construction** of a building for which one or more professional seals are required on the plans. Sentence 1.5.2.1.(1) authorizes an inspector to require professional review during the construction of any complex building. Most building inspectors would expect professional engineering design and construction review of a building whose frame was of structural steel. The Professional undertaking the construction review would usually be the Professional Engineer responsible for the design.

5. Article 2.6.2.1. requires the owner to retain the designer or another suitably qualified person to review the construction of any building or part thereof to determine whether or not the construction conforms to the design.

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7. Article 2.3.4.4. of the Alberta Building Code 1990 requires that structural drawings of parts or components designed by a person other than the designer of the building shall be dated and bear

the authorized professional seal and signature of the person responsible for the design of such parts or components (e.g., shop drawings).

8. **In addition to professional engineering design and review there will be a need for architectural design and sealing of plans for larger buildings.** Standata bulletin 90-DI-002 gives further information on this subject.

9. Article 1.5.3.3. of Alberta Building Code 1990 requires the owner to submit evidence to the authority having before construction begins, that all fabricators and erectors of welded construction for buildings, constructed under Part 4 are certified by the Canadian Welding Bureau.

FIRE RATING OF EXTERIOR WALLS

1. As the distance between a building and a property line or another building on the same site changes the requirements for the construction of the exterior wall facing that other building or property line may vary. Subsections 3.2.3. and 9.10.14. of the Alberta Building Code 1990 give the requirements.

2. If buildings are close together the perimeter walls are expected to contain a fire and to prevent the spread of fire to other buildings or structures for a specific period of time. A primary method of fire spread from one building to another is radiation. If exterior walls are close to other buildings limits are placed on openings and on the type of wall construction. Although noncombustible, steel has little or no fire-resistance rating and will often require added fire protection to satisfy the Alberta Building Code 1990. As the distance to a property line or an adjacent building decreases,the requirements for construction of the exterior wall becomes more stringent.

3. If the wall of a building is a party wall or has zero limiting distance, the wall is required to be a firewall. The fire-resistance rating of the firewall will depend on the occupancy of the building on each side of the party wall.

4. If the wall of a building is less than 1.2 m from a property line, no unprotected openings are permitted. Unprotected openings are any part of that exterior wall surface which does not have the required fire resistance rating and are not protected by closures conforming to Subsections 3.1.8. or 9.10.13. of the Alberta Building Code 1990.

5. If the building is sprinklered or the unprotected openings are glazed with glass blocks or with wired glass conforming to Article 3.1.18.14. of the Alberta Building Code 1990, the maximum area of unprotected openings in any exposing building face may be doubled.

6. In many cases, there will be a requirement that a wall facing a property line have a fire-resistance rating. The degree of this rating will depend on the occupancy. The rating may decrease as the distance from the property line increases. The designer of the building should indicate and detail the required fire-resistance construction on plans submitted for a building permit.

7. For special requirements for low hazard industrial buildings, see Article 3.2.3.10. or Article 9.10.14.16. of the Alberta Building Code 1990.

NOTE:

The Alberta Building Code 1990 does not apply to

(a) an accessory building not greater than 10 m² in building are that does not create a hazard.

(b) a building of low human occupancy for the housing of livestock or the storage or maintenance of equipment or materials or produce associated with the operation of the farm on which it is located. (except for the specific requirements of Part 7 - Plumbing Services and Health) (Sentence 1.2.3.1.(1)).

This exception for farm buildings applies if the building use is **associated directly and only** with the farm on which it is located. For example, if a farm building is used for secondary processing, or as a sales facility for produce, or is used to store, sell or repair equipment, etc. for other farmers or if the building can not be classed as having low human occupancy, then the Alberta Building Code 1990 applies to the building.

Farm buildings, because of low human occupant loads, are designed to standards which are less stringent than those for other buildings which people use. Buildings designed for use as farm buildings may not be used for other occupancies under the Alberta Building Code unless all the design requirements of the Alberta Building Code are met.