

January 14, 2007

Mike Nugent  
City of Portland  
389 Congress Street, Portland, ME 04101

Subject: Mercy Hospital at Fore River - Answer to your e-mail, dated 01/10/07, item #2.

Dear Mike,

In an attempt to meet the IBC2003 referenced standards and, at the same time, trying to incorporate current structural steel design standards our specifications and steel notes have references to two sets of specifications - which led to some confusion.

Our review has verified that all aspects of the building steel frame and connection design meet or exceed the requirements stated in the standards referenced in IBC 2003.

I hope that my explanation below will clarify this situation and answer your questions.

The specification Section 05120-1.6-D lists titles of the steel specifications which are included in AISC Manual-LRFD, 3<sup>rd</sup> Edition or AISC Manual-ASD, 9<sup>th</sup> Edition. (There is one exception, item D.2 lists 2005 Seismic Provisions - please see below for the justification.) See attached file "STEEL-Spec-Ref" showing specification title references for AISC-LRFD, 3<sup>rd</sup> Ed. Please note that IBC 2003 references the same specifications.

On Drawing SG001, under Structural Steel Note #1, we referenced specification which is a part of AISC Steel Construction Manual, 13<sup>th</sup> Edition. The reference to the AISC 13<sup>th</sup> edition was done because it clarifies certain aspects of the design that were not as clear in the previous editions. The AISC 13<sup>th</sup> edition is the current standard of the steel design which combines and supersedes the two previous steel specifications: LRFD, 3<sup>rd</sup> Ed. and ASD, 9<sup>th</sup> Ed. Please see attached file "AISC-13<sup>th</sup>" for this publication overview. In my professional opinion, this new specification meets or exceeds the previous standards - see example of the comparable connection calculations below.

Since the AISC-13<sup>th</sup> Ed. references the 2005 AISC Seismic Provisions for Structural Steel Buildings (341-05) we felt obligated to comply with this publication. In my professional opinion, 341-05 meets or exceeds the requirements of 341-02 referenced in IBC 2003 in reference to the Special Steel Concentrically Braced Frames, which is the system used in this project.

The building steel framing was designed based on AISC Manual of Steel Construction - LFRD, 3<sup>rd</sup> Edition. This meets the IBC 2003 standard.

The steel member connections are being designed based on notes shown on Drawing SG001:

- Bracing connections design is based on AISC-LFRD, 3<sup>rd</sup> Edition (see Steel Connection Note #8)- this meets IBC 2003 standard.
- All other steel connections are designed based on AISC 13<sup>th</sup>, LFRD method, with some of non-typical connections being designed according to ASD, 9<sup>th</sup> edition. I included the example calculations (see attached file "STEEL-Connections"), for the two most widely used types of the connections on this project, to show that the use of LFRD method based on AISCM-13<sup>th</sup> edition does meet the LFRD 3rd Edition (1999), which is referenced by IBC 2003.

If you need more information or have other questions please e-mail or call me directly.

Sincerely,

Janusz Wszola, PE  
Structural Engineer  
Tel.: 772-3846 ext.842