July 19, 2004

Honorable Mayor and Members of the Hermosa Beach City Council

Regular Meeting of July 27, 2004

SUBJECT: ADOPTION OF UPDATED STRUCTURAL STANDARDS TO THE 2001 CALIFORNIA BUILDING STANDARDS CODE

Recommendation:
That the City Council waive further reading and adopt the attached resolution and ordinance amending the City's Building Code to incorporate updated structural standards in the 2001 California Building Standards Code.

Background:
The California Building Standards Commission recently adopted emergency regulations to update the structural building standards in the California Building Standards Code (California Code of Regulations, Title 24). These new standards are nationally recognized structural regulations which were determined to be lacking in the current edition of the California Building Code (CBC). The update, effective July 18, 2003, was made to further the protection of the public in and around buildings and was recently amended. [1] The proposed changes will bring the City's code in compliance with the State adopted code.

The City Council adopted the most recent edition of California Building Standards Code in October 2002. That code incorporates the 1997 Edition of the Uniform Building Code (UBC) and does not contain the most recent structural building standards adopted by the State.

Analysis:
There have been numerous new developments in seismic design that have not been incorporated in the 2001 California Building Code and the 1997 UBC. The California Building Standard Commission has adopted these new regulations to upgrade structural requirements and local jurisdictions adopt them as part of local code adoption process. The changes are summarized as follows:

- New definitions of light frame construction (avoids confusion in the design and review process)
- Increased wind and earthquake load factors as permitted in Chapter 23 of the UBC (for greater resistance to seismic and wind forces).
- New Seismic Zone 4 design factors.
- New horizontal distributions for design loads (increasing design factors).
- New vertical combinations for seismic design (eliminating inadvertent design reductions from higher to lower levels due to different lateral force resisting systems along the height of the building. (This amendment is needed due to variations in local geological conditions).
- New code language clarifying the types of elements such as beams and columns supporting discontinuous systems and ensuring that the connection of such discontinuous elements are designed for the load above. (e.g. steel columns that are part of lateral force resisting systems which are designed for a special load combination must have connections also of sufficient capacity to transmit the load to the supporting element).
- New AISC design requirements for Seismic Zones 3 and 4.
- Limitations on the use of ordinary moment frame designs relating to height and dead loads.

- Structural tests, inspections and observations requirements to allow construction team members to better coordinate and communicate design intent.
- Nondestructive testing for steel member resisting frames and steel braced frame systems
- New design parameters for concrete and steel correcting deficiencies and updating the 1997 UBC.
- New design parameters for wood including allowable stress design and hold down connectors (for misaligned bolt holes and insufficient contact area between bolts, washers and wood members).

Since adoption of these emergency measures by the State last year, the City has been utilizing the requirements in the plan review and plan approval process. Adoption of the proposed ordinance will codify these regulations as part of the City's Building Code.

_____
Sol Blumenfeld, Director
Community Development Department

_____
Stephen R. Burrell
City Manager

Attachments:

1. Resolution
2. Proposed Ordinance
3. Building Standards Commission Summary Report & Statement of Reasons for Adoption
4. Non-Substantive Amendments

Notes:

1. An amendment of non-substantive changes was approved by the State this year clarifying amendment text, cleaning up typographical errors, adding footnotes and reformatting portions of the document. These changes have been incorporated in the attached ordinance and are also shown in Attachment No 4.

CBSCAdoption3

RESOLUTION NO.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH, CALIFORNIA, MAKING FINDINGS IN SUPPORT OF ADOPTION OF AN ORDINANCE OF THE CITY OF HERMOSA BEACH, CALIFORNIA, ADOPTING BY REFERENCE PART 2 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WITH UPDATED STRUCTURAL AMENDMENTS, COMPRISING THE 2001 CALIFORNIA BUILDING CODE; AND AMENDING TITLE 15 OF THE HERMOSA BEACH MUNICIPAL CODE.

A. Recitals

(i) California Health and Safety Code Section 17922 requires all cities to adopt, as the City Building Standards Code, the State Building Standards Code adopted pursuant to the provisions of Chapter 4 of Part 2.5 of Division 13 of the California Health and Safety Codes.

(ii) The State Building Standards Commission has recently adopted new updated structural standards to provide a uniform level of public safety throughout the State;

(iii) Recent major earthquakes have revealed shortcomings in current building standards;

(iv) Current published standards do not include new advancements in seismic design;

(v) The proposed standards will reduce loss of life and economic hardship after a major earthquake;

(vi) The standard four year code adoption cycle may be extended due to the proposed adoption of new model codes (NFPA 5000 or 2003 IBC) and the delay will cause the City's building code to be out of step in standards and engineering principles with the most current model building codes;

(vii) This Council desires to amend the City's building code to incorporate the structural of standards of the California Building Code.

B. Resolution

NOW, THEREFORE, BE IT FOUND, DETERMINED AND RESOLVED AS FOLLOWS:

1. In all respects as set forth in the Recitals, Part A, of this Resolution.
2. This Council does hereby expressly find and determine that the proposed amendments set forth in the attached Ordinance amending the "California Building Standards Code" and related publications, 2001 Editions are necessary for protection of the public in and around buildings.

PASSED, APPROVED and **ADOPTED** this 27th day of July, 2004.

_____

PRESIDENT of the City Council and **MAYOR** of the City of Hermosa Beach, California

ATTEST: APPROVED AS TO FORM:

_____ _____

City Clerk City Attorney

ORDINANCE NO.

AN ORDINANCE OF THE CITY OF HERMOSA BEACH, CALIFORNIA, ADOPTING BY REFERENCE PART 2 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WITH UPDATED STRUCTURAL AMENDMENTS, COMPRISING THE 2001 CALIFORNIA BUILDING CODE; PART 3 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, COMPRISING THE 2001 CALIFORNIA ELECTRICAL CODE; PART 4 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, COMPRISING THE 2001 CALIFORNIA MECHANICAL CODE; PART 5 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, COMPRISING THE 2001 CALIFORNIA PLUMBING CODE; PART 9 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, COMPRISING THE 2001 CALIFORNIA FIRE CODE; PART 10 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, COMPRISING THE 2001 CALIFORNIA CODE FOR BUILDING CONSERVATION; THE 1997 EDITION OF THE UNIFORM HOUSING CODE; AND THE 1997 EDITION OF THE UNIFORM CODE FOR THE ABATEMENT OF DANGEROUS BUILDINGS; AMENDING SAID CODES; AND AMENDING TITLE 15 OF THE HERMOSA BEACH MUNICIPAL CODE.

WHEREAS, the State of California has adopted the California Building Standard Codes that must in turn be adopted or utilized by each city or county;

WHEREAS, the State Building Standards Commission has recently adopted new updated structural standards to provide a uniform level of public safety throughout the State;

WHEREAS, recent major earthquakes have revealed shortcomings in current building standards;

WHEREAS, current published standards do not include new advancements in seismic design;

WHEREAS, the proposed standards will reduce loss of life and economic hardship after a major earthquake;

WHEREAS, the standard four year code adoption cycle may be extended due to the proposed adoption of new model codes (NFPA 5000 or 2003 IBC) and the delay will cause the current California Building Code to be out of step in its reference standards and engineering principles with the most current model building codes;

WHEREAS, this project will not have a significant effect on the environment, and is therefore exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15061 (b)(3) of the CEQA Guidelines.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH, CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Section 15.04.010 of Title 15, the California Building Code, 2001 Edition (Part 2 of Title 24 of the California Code of Regulations), as amended on July 18, 2003 and March 18, 2004, incorporating structural updates and amending the Uniform Building Code, 1997 Edition, published by the International Conference of Building Officials, including appendices, excepting Chapters 3, Division III and IV, 4 ,Division II, 11, 13, 21, 23, and 31 of said appendices, is hereby adopted by reference and made a part of this chapter as though set forth in this chapter in full. Said code shall comprise the Building Code of the City of Hermosa Beach. A copy of the Building Code shall be maintained in the office of the City Clerk, and shall be made available for public inspection while the Code is in force. Whenever the word "jurisdiction" appears in said code, it shall mean and refer to the City of Hermosa Beach. Whenever the term "building official" appears in said code, it shall mean and refer to the Director of Community Development of the City of Hermosa Beach.

SECTION 2. All inconsistencies between the Building Code, Electrical Code, Mechanical Code, Plumbing Code, and Fire Code, as adopted by this Ordinance, and the 2001 edition of the California Building Code, Electrical Code, Mechanical Code, Plumbing Code, and Fire Code, as set forth in Parts 2, 3, 4, 5 and 9, respectively, of Title 24 of the California Code of Regulations, are changes, modifications, amendments, additions or deletions thereto authorized by California Health and Safety Sections 17958.5 and 17958.7.

SECTION 3. To the extent the provisions of this Ordinance are substantially the same as previous provisions of the Hermosa Beach Municipal Code, these provisions shall be construed as continuations of those provisions and not as new enactments.

SECTION 4. If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance or any part hereof or exhibit hereto is for any reason held to be invalid, such invalidity shall not affect the validity of the remaining portions of this Ordinance or any part thereof or exhibit thereto. The City Council of the City of Hermosa Beach hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases be declared invalid.

SECTION 5. The City Council does hereby designate the City Attorney to prepare a summary of this ordinance to be published pursuant to Government Code Section 36933(c)(1) in lieu of the full text of said ordinance. That prior to the expiration of fifteen (15) days after the date of its adoption, the City Clerk shall cause the summary to be published in the Easy Reader, a weekly newspaper of general circulation, published and circulated in the City of Hermosa Beach.

SECTION 6. The City Clerk shall certify to the passage and adoption of this ordinance; shall enter the same in the book of original ordinances of said city; shall make minutes of the passage and adoption thereof in the records of the proceedings of the City Council at which the same is passed and adopted.

SECTION 7. State law requires that localities adopt the California Building Standards Code and modifications thereto that comport with state law and contain those modifications necessitated by unique topographic, geologic and climatic conditions. In the absence of immediate effectiveness, the provisions of the Building, Electrical, Mechanical, Plumbing and Fire Codes unique to the City's special circumstances will not be in place and this will have a detrimental effect on the public, health, safety and welfare. The modification to the Codes contain vital provisions regarding administrative procedures, roofing materials, sprinkling requirements, and other similar matters necessitated by the City's exposure to Santa Ana winds and its limited rainfall in summer and fall months. For these reasons, the public health, safety and welfare require that this ordinance take effect immediately.

SECTION 8. This ordinance shall be effective upon adoption.

PASSED, APPROVED and **ADOPTED** this 27TH day of July, 2004, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____

PRESIDENT of the City Council and **MAYOR** of the City of Hermosa Beach, California

ATTEST:

_____
CITY CLERK

APPROVED AS TO FORM:

_____
CITY ATTORNEY

CBSCadoption3

BUILDING STANDARDS COMMISSION
2525 Natomas Park Drive, Suite 130
Sacramento, California 95833
(916) 263-0916 FAX (916) 263-0959

BUILDING STANDARDS BULLETIN 01-03

DATE: AUGUST 1, 2003
TO: INTERESTED PARTIES
SUBJECT: UPDATE TO STRUCTURAL STANDARDS IN 2001 CALIFORNIA BUILDING STANDARDS CODE

The California Building Standards Commission recently adopted emergency regulations to update structural building standards in the California Building Standards Code (California Code of Regulations, Title 24). The update was made to further the protection of the public in and around buildings, and became effective on July 18, 2003. Under the Commission's leadership, a technical advisory group developed a coordinated consensus document of updates to the structural building standards contained in the California Building Code (Title 24, Part 2). Working in partnership with local jurisdictions in California, the group produced this document using proposals submitted by the Los Angeles Regional Uniform Code Program and the tri-chapter organization of three International Code Council chapters (Peninsula, East Bay, and Monterey). The document makes some of the more critically needed updates to the structural
standards. These updates are currently accepted, nationally recognized standards and engineering principles, which were determined to be lacking in the California Building Code. The Commission adopted these emergency building standards to ensure public safety in the buildings it has the authority to regulate; specifically, state buildings, buildings constructed by the Trustees of the California State University, and those constructed by the Regents of the University of California. These standards will also serve as a template for local municipalities to adopt as local modifications to the California Building Standards Code, thus providing for a uniform level of public safety throughout California. The emergency standards themselves follow.

INITIAL STATEMENT OF REASONS
OF
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION
REGARDING THE CALIFORNIA BUILDING CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when a rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action.

STATEMENT OF SPECIFIC PURPOSE AND RATIONALE:

(Government Code Section 11346.2 requires a statement of the specific purpose of **EACH** adoption, amendment, or repeal and the rational for the determination by the agency that **EACH** adoption, amendment, or repeal is reasonably necessary to carry out the purpose for which it is proposed.) *There have been numerous new developments in the area of seismic design that have not been incorporated in the 2001 California Building Code, Part 2, Vol. 2 of Title 24 based on the 1997Uniform Building Code (UBC). The California Building Standard Commission (CBSC) is proposing to upgrade the structural requirements of the 2001 California Building Code, Part 2, Vol. 2 of Title 24.*

to make available current seismic standards for adoption at the local level.

New structural amendments as recommended by the California Seismology commission and the Structural Engineers Association have been incorporated by some jurisdictions by way of local ordinances. These amendments were reviewed by a Seismic Ad Hoc Advisory Committee established by the CBSC for consideration for statewide application.

It is expected that there will be little or no negative financial impact on the construction industry as a result of the modifications being proposed to the existing codes.

The following is a brief summary of purpose and rationale for each specific amendment.

CHAPTER 2 -- DEFINITIONS

SECTION 213 -- L

Light-Frame Construction

Purpose:

The 1997 UBC, on several occasions, refers to “Light-Frame” construction. However, currently there is no definition for this term in Chapter 2 or 16. This could lead to confusion in the design and review process.

Rationale:

The proposal inserts new language, with additional clarification, which clearly identifies the types of construction, which could be deemed as light frame.

CHAPTER 16 – STRUCTURAL FORCES

1612.3.2.1 Alternate basic load combinations.

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

The proposal clarifies that it was not the intent of the code to allow the one-third increase for wind or earthquake to be cumulative with duration of load factors as permitted in chapter 23 of UBC, by inserting new language that explicitly indicates that.

1629.4.2. Seismic Zone 4 near-source factor.

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

Sections 9.6a and 9.6b of AISC - Seismic Part 1 exempts strong-column/weak-beam requirements under certain load conditions and configurations for steel Special and Intermediate moment frames.

97 UBC Section 1629.4.2 item 4 require that structures located near fault shall comply with SC/WB The revision reflects the same requirements as in 1997 AISC-Seismic. This is consistent with SEAOC Seismology position.

1630.2.3.4 Horizontal Distribution

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

To ensure that the assumption of flexible diaphragms are limited only to simplified procedure which requires design for additional seismic loads.

1630.4.2.1 Vertical Combinations

Purpose:

To add language to ensure that the seismic forces are not inadvertently reduced from higher level to a lower level due to different lateral force resisting systems along the height of the building.

Rationale:

This amendment is needed due to local geological conditions.

1630.8.2.1.1 General.

Purpose:

The added language clarifies the types of elements that would be of concern, such as beams and column supporting discontinuous systems. It also ensures that the connection of such discontinuous elements are designed for a load less that the member above is designed for. For example in case of steel columns that are part of lateral force resisting system, which are designed for the special load combination, it is critical to ensure that their connections also have sufficient capacity to transmit the load to the supporting element.

Rationale:

To clarify the application of special seismic load combination to discontinuous systems, since the code currently only refers to the material types to be considered not which types of elements.

1630.8.2.2.1 Detailing requirements in Seismic Zones 3 and 4.

Purpose:

The provision is adopted in AISC-Seismic 97 Part I, Section 8.3 and applicable to all axial loaded
members. Redundant.

Rationale:

Old section is no longer applicable. Replace with provision in the AISC-Seismic.

TABLE 16.1N – STRUCTURAL SYSTEMS

Purpose:

The proposal allows the use of Ordinary Moment Frames and Intermediate Moment frames with certain limitations on height and dead load.

Rationale:

Editorially revise/update table to make it consistent with the adoption of 1997 AISC-Seismic Provisions and the latest Supplements. These provisions are fundamentally updated from previous
editions. It has incorporated to the extent possible, most recent findings from the FEMA funded SAC Reports.

CHAPTER 17 – STRUCTURAL TESTS AND INSPECTIONS

1701.5 Types of Work, Sec. 5.2

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

To be consistent with AISC-Seismic Part I requirements for nondestructive testing for welded joints that are subject to net tensile forces in moment frames and braced frames.

SECTION 1702.1 -- STRUCTURAL OBSERVATION

Purpose:

The current wording for requiring structural observation does not provide adequate accountability nor good record and is in need for improvement. This modification will correct this deficiency.

Rationale:

The provision is amended to better define the requirement for Structural Observation. It also allows BSC-ISOR
Adoption of Updated Seismic
Provisions
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the construction team members to coordinate and communicate more and for Building Officials to keep better record of the required activities. Enhanced enforcement of the Structural Observation will improve construction quality in general.

SECTION 1703.1 – NONDESTRUCTIVE TESTING

Purpose:

restrictions were added to both steel moment resisting frame and steel braced frame systems. The current language only pertains to moment resisting frame systems and does not include other steel systems.

Rationale:

Section 1703 outlines the requirements for nondestructive testing of structural elements and connections. 1997 AISC-Seismic Part I, which is adopted by the CBSC for DSA and OSHPD, requires nondestructive testing for all welded joints in moment frames and braced frames. This amendment reconciles Section 1703 with 1997 AISC-Seismic for consistency.

CHAPTER 19 - CONCRETE

1915 – FOOTINGS

1915.2.2.1

Purpose:

The existing code language for the design of footings per Allowable Stress Design criteria refers to unfactored loads, which is not correct. The load combinations used for allowable stress design actually have some load factors associated with different types of loads. This change will correct this condition.

Rationale:

The proposed language eliminates the reference to unfactored loads and directly references the appropriate section for the load combinations, which need to be used.

1928.1.2.3.1 Basic Calculations

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

Editorially revise/update Basic Calculations to make it consistent with the adoption of 1997 AISC Seismic Provisions and the latest Supplements. These provisions are fundamentally updated from
previous editions.
BSC-ISOR
Adoption of Updated Seismic
Provisions
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CHAPTER 22 - STEEL

2204.1.1 Load and Resistance Factor Design

Purpose:

Research after the 1994 Northridge earthquake conducted by FEMA funded SAC Joint Venture concluded that more restricted use of steel moment frame and braced frame buildings is required. Subsequent national standards such as NEHRP 2000 and ASCE 7-2002 implemented these restrictions. The 1997 AISC-Seismic Provisions was adopted by CBSC in March 2002, but applicable only to OSHPD and DSA, should be applicable to buildings of all occupancies. Furthermore, AISC has released Supplement No. 2, which supercedes Supplement No. 1.

Rationale:

Section 2204 is editorially revised/updated to make it consistent with the CBSC adoption of 1997 AISC-Seismic Provisions Parts I and III, and its latest Supplements. AISC-Seismic Parts I and III, which is adopted by the CBSC for OSHPD and DSA, will then be applicable to all buildings constructed with structural steel in California.

2204.2.1 Allowable Stress Design.

Purpose:

Research after the 1994 Northridge earthquake conducted by FEMA funded SAC Joint Venture concluded that more restricted use of steel moment frame and braced frame buildings is required. Subsequent national standards such as NEHRP 2000 and ASCE 7-2002 implemented these restrictions. The 1997 AISC-Seismic Provisions was adopted by CBSC in March 2002, but applicable only to OSHPD and DSA, should be applicable to buildings of all occupancies. Furthermore, AISC has released Supplement No. 2, which supercedes Supplement No. 1.

Rationale:

Section 2204 is editorially revised/updated to make it consistent with the CBSC adoption of 1997 AISC-Seismic Provisions Parts I and III, and its latest Supplements. AISC-Seismic Parts I and III, which is adopted by the CBSC for OSHPD and DSA, will then be applicable to all buildings constructed with structural steel in California.

CHAPTER 22*B*, STEEL

2205.3B Seismic Design Provisions for Structural Steel

BSC-ISOR
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Division IV — SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS

2210B — Adoption

2211B – Design Methods

2212B – Amendments

2213B — Adoption

2214B — Design Methods

2215B — Amendments

Purpose:

The proposal corrects a significant deficiency in the 1997 UBC.

Rationale:

The current 97 UBC edition is based on the outdated 1992 AISC Seismic provisions. The proposal makes the CBC provisions consistent with the current practice which is based on the 1997 AISC Seismic with the 2 subsequent Supplements printed afterward.

CHAPTER 23 - WOOD

2315.5.6 Hold-down connectors.

Purpose:

Extensive damage to the sill plates and posts connected to hold-downs were observed after the 1994 Northridge earthquake. The misaligned bolt holes, lack of sufficient contact area between the washer and the wood element and omission of re-tightening of bolts were the major attributes to the poor performance.

Rationale:

The observed failures led to the recommendation to use larger, square steel plate washers to reduce splitting of sill plates, the proposal applies the same rationale to the design of hold-own bolts.

Table 23-II-L MINIMUM SIZE STEEL PLATE WASHERS USED WITH HOLDOWN CONNECTORS

Purpose:

Extensive damage to the sill plates and posts connected to hold-downs were observed after the 1994 Northridge earthquake. The misaligned bolt holes, lack of sufficient contact area between the washer and the wood element and omission of re-tightening of bolts were the major attributes to the poor performance.

Rationale:

The observed failures led to the recommendation to use larger, square steel plate washers to reduce splitting of posts in future earthquakes.

DIVISION III – DESIGN SPECIFICATIONS FOR ALLOWABLE STRESS DESIGN OF WOOD BUILDINGS

PART I – ALLOWABLE STRESS DESIGN

2316.1 Adoption and Scope

BSC-ISOR
Adoption of Updated Seismic Provisions

7 7-15-03

Purpose:

To update the current design criteria for wood framed buildings specification, which is more than 10 years old. This action will update this provision.

Rationale:

To update the 97 UBC with the American Forrest and Paper Association and the American Wood Council publication of the 1997 NDS specifications, which incorporates many of the recent findings that were researched since publication of 1991 NDS, and it is also in a user-friendlier format.

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:

(Government Code Section 11346.2(b)(2) requires an identification of each technical, theoretical,
and empirical study, report, or similar document, if any, upon which the agency relies in proposing
the regulation(s).)

1. AISC 97: Seismic design provision with supplement 1 & 2
2. FEMA funded SAC reports on steel moment frames
3. SEAOC blue book
4. SEAOC Seismology Committee recommendations
5. NDS 97: National Design Specifications for Wood Construction of the American Forest and Paper Association and supplement to the 1997 edition.

CONSIDERATION OF REASONABLE ALTERNATIVES

(Government Code Section 11346.2(b)(3)(A) requires a description of reasonable alternatives to the regulation and the agency's reason for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate) *The Building Standards Commission has determined that there are no other reasonable alternatives considered that would be more appropriate*

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

(Government Code Section 11346.2(b)(3)(B) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business. Include facts, evidence, documents, testimony, or other evidence upon which the agency relies to support an initial determination that the action will not have a significant adverse impact on business.) *No alternatives were identified to lessen the adverse impact on small businesses.*

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.

(Government Code Section 11346.2(B)(4) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies in to support an initial determination that the action will not have a significant adverse economic impact on business) *No facts, evidence, documents, testimony, or other evidence of no significant adverse economic impact on business have been identified however, the adoption of more current seismic structural requirements is necessary to preserve the health and welfare of the citizens of California during seismic activity.*

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

(Government Code Section 113465.2(b)(5) requires a department, board, or commission within the
Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The

differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment. It is not the intent of this paragraph to require the agency to artificially construct alternatives or to justify why it has not
identified alternatives)

There is no known conflict or duplication with any of the State or Federal agency regulations. On the contrary, these regulations, if approved will be at par with the Federal and State of California regulations.

CALIFORNIA BUILDING STANDARDS COMMISSION

NOTICE REGARDING PROPOSED AMENDMENTS TO THE CALIFORNIA BUILDING CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2)

MODIFICATIONS TO SEISMIC UPDATES TO STRUCTURAL PROVISIONS

The California Building Standards Commission (CBSC) is proposing modifications to the permanent adoption of emergency building standards, previously noticed, updating structural provisions in the California Building Code (California Code of Regulations, Title 24, Part 2).

Last day to submit comments: July 16, 2004

MODIFICATIONS MADE TO NOTICED EXPRESS TERMS

LEGEND FOR EXPRESS TERMS
1. 15-Day new California language: All such language appear double underlined.
2. Repealed 15-Day text: All such language appears in ~~double strickout.~~

Editorial Revisions to emergency adoption:

1. A referral note to use Table 16.1-N for BSC occupancies is being added to the model code Table 16-N.

2. Table 16.1-N [For BSC] Structural Systems; Two editorial modifications were made to this table. In from the original 45-Day language, the Omega symbol was not recognized by the software that was being used at the time. A place holder was produced by the software and was not corrected prior to it being distributed in the 45-Day language. The publishers final distributed version of this table was printed correctly.

   The second of the two modifications was to correct a footnote reference for item 3. Moment-resisting frame system, sub-item 4, (OMRF). The footnote referred to footnote 6. This has been corrected to refer to the correct footnote 6.2.

3. In Section 2212B and 2215B there are exceptions to the sections following the equations for load factors. Within the exception language there is a misspelled word. This action will correct the misspelled word.

4. Chapter 23; The original format of the 45-Day Building Standards Commissions (BSC) emergency package resulted in a publication error. This action reformats the Chapter 23 amendments into an alternative format that does not change the effect of the originally proposed text, but clarifies BSC's application.

CHAPTER 16 – STRUCTURAL DESIGN REQUIREMENTS

TABLE 16-N – STRUCTURAL SYSTEMS [1]
(For Occupancies regulated by BSC use Table 16.1-N)

TABLE 16.1-N – [For BSC] STRUCTURAL SYSTEMS [1]

BASIC STRUCTURAL SYSTEM[2]	LATERAL-FORCE-RESISTING SYSTEM DESCRIPTION	R	Ω_0	HEIGHT LIMIT FOR SEISMIC ZONES 3 AND 4 (feet) x 304.8 for mm
1. Bearing wall system	1. Light-framed walls with shear panels			
	a. Wood structural panel walls for structures three stories or less	5.5	2.8	65
	b. All other light-framed walls	4.5	2.8	65
	2. Shear walls			
	a. Concrete	4.5	2.8	160
	b. Masonry	4.5	2.8	160
	3. Light steel-framed bearing walls with tension-only bracing	2.8	2.2	65
	4. Braced frames where bracing carries gravity load	4.4	2.2	160
	a. Steel	2.8	2.2	-
	b. Concrete[3]	2.8	2.2	65
	c. Heavy timber			
2. Building frame system	1. Steel eccentrically braced frame (EBF)	7.0	2.8	240
	2. Light-framed walls with shear panels.			
	a. Wood structural panel walls for structures three stories or less	6.5	2.8	65
	b. All other light-framed walls	5.0	2.8	65
	3. Shear walls			
	a. Concrete	5.5	2.8	240
	b. Masonry	5.5	2.8	160
	4. Ordinary braced frames			
	a. Steel [6]	5 ~~5.6~~	2	35 [6]
	b. Concrete[3]	5.6	-	-
	c. Heavy timber	5.6	2.2	65
	5. Special concentrically braced frames		2.2	
	a. Steel	6.4	2.2	240

3. Moment-resisting frame system	1. Special moment-resisting frame (SMRF)			
	a. Steel	8.5	2.8	N.L.
	b. Concrete[4]	8.5	2.8	N.L.
	2. Masonry moment-resisting wall frame (MMRWF)	6.5	2.8	160
	3. Intermediate moment-resisting frame (IMRF)	4.5	2.8	35[6]
	a. Steel[6]	5.5	2.8	-
	b. Concrete[5]			
	4. Ordinary moment-resisting frame (OMRF)	3.5	2.8	~~6~~ 62
	a. Steel[6]	3.5	2.8	-
	b. Concrete[8]	6.5	2.8	240
	5. Special truss moment frames of steel (STMF)			
4. Dual systems	1. Shear walls			
	a. Concrete with SMRF	8.5	2.8	N.L.
	b. Concrete with steel OMRF (Not Permitted)	4.2	2.8	160
	c. Concrete with concrete IMRF[5]	6.5	2.8	160
	d. Masonry with SMRF	5.5	2.8	160
	e. Masonry with steel OMRF (Not Permitted)	4.2	2.8	160
	f. Masonry with concrete IMRF[3]	4.2	2.8	-
	g. Masonry with masonry MMRWF	6.0	2.8	160
	2. Steel EBF			
	a. With steel SMRF	8.5	2.8	N.L.
	b. With steel OMRF (Not Permitted)	4.2	2.8	160
	3. Ordinary braced frames (Not Permitted)	6.5	2.8	N.L.
	a. Steel with steel SMRF	4.2	2.8	160
	b. Steel with steel OMRF	6.5	2.8	-
	c. Concrete with concrete SMRF[3]	4.2	2.8	-
	d. Concrete with concrete IMRF[3]			
	4. Special concentrically braced frames	7.5	2.8	N.L.
	a. Steel with steel SMRF	4.2	2.8	160
	b. Steel with steel OMRF (Not Permitted)			
	5. Steel IMRF (Not permitted)			
5. Cantilevered column building systems	1. Cantilevered column elements	2.2	2.0	35[7]
6. Shear wall-frame interaction systems	1. Concrete[8]	5.5	2.8	160
7. Undefined systems	See Section 1629.6.7 and 1629.9.2	-	-	-

N.L.– no limit

[1] See Section 1630.4 for combination of structural systems.
[2] Basic structural systems are defined in Section 1629.6.
[3] Prohibited in Seismic Zones 3 and 4.
[4] Includes precast concrete conforming to Section 1921.2.7.
[5] Prohibited in Seismic Zones 3 and 4, except as permitted in Section 1634.2.
[6]Unless otherwise approved by the enforcement agency, in Seismic Zone 4 :
[6.1] Steel IMRF are permitted for buildings 35 ft. or less in height and the dead load of the roof, walls or floors not exceeding 35 psf each; or for single-story buildings 60 ft. or less in height with dead load of the roof or walls not exceeding 15 psf each where the moment joints of field connections are constructed of bolted end plates; or single-family dwellings using light frame construction with $R = 3.0$ and $\Omega_o = 2.2$.

[6.2] Steel OMRF are permitted for buildings 35 ft or less in height with the dead load of the roof, walls or floors not exceeding 15 psf each; or single-story buildings 60 ft or less in height with the dead load of the roof or walls not exceeding 15 psf each and where the moment joints of field connections are constructed of bolted end plates.
[6.3] Steel Ordinary Braced Frames are permitted for buildings 35 ft or less in height; or penthouse structures; or single-story buildings 60 ft or less in height with the dead load of the roof or walls not exceeding 15 psf. each.
[7] Total height of the building including cantilevered columns.
[8] Prohibited in Seismic Zones 2A, 2B, 3 and 4. See Section 1633.2.7.

Notation
Authority: [Health and Safety Code, Section 18934.5]
Reference(s): [Health and Safety Code, Sections 18928 & 18934.5]

2212B - AMENDMENTS
The AISC-Seismic adopted by this Division apply to the seismic…

1. Part I, Sec. 1. of the AISC Seismic Provisions is revised as follows:

1. SCOPE
These provisions are intended for the design and construction of structural steel members and connections in the Seismic…

… to this Part, and Appendix S.

2. Part I, Sec. 4.1. of the AISC Seismic Provisions is deleted and replaced as follows:

4.1 Loads and Load Combinations

The loads and load combinations shall…

Exception: the load factor on L in load combination 4-1 shall be equal to 1.0 for garages, areas occupied as~~s~~ places of public assembly and all areas where the live load is greater than 100 psf.

2215B - AMENDMENTS
The AISC-Seismic adopted by this Division apply to the seismic…

1. Part III, Sec. 1. of the AISC Seismic Provisions is revised as follows:

1. SCOPE
These provisions are intended for the design and construction of structural steel members and connections in the Seismic Force…

…applicable to this Part, and Appendix S.

2. Part III, Sec. 4.1. of the AISC Seismic Provisions is deleted and replaced as follows:

2.1 Loads and Load Combinations

The loads and load combinations shall be those in…

Exception: the load factor on L in load combination 4-1 shall be equal to 1.0 for garages, areas occupied as~~s~~ places of public assembly and all areas where the live load is greater than 100 psf.

CHAPTER 23 – WOOD

Division III –DESIGN SPECIFICATIONS FOR ALLOWABLE STRESS DESIGN OF WOOD BUILDINGS

Part I – ALLOWABLE STRESS DESIGN OF WOOD

This standard, with certain exceptions, is the ANSI/NFoPA NDS-91 ***[For BSC, NDS-97]*** National Design Specification for Wood Construction of the American Forest and Paper Association, 1991 Edition, and the Supplement to the 1991 Edition, ***[For BSC, NDS-97]*** National Design Specification, adopted by reference.

The National Design Specification for Wood Construction, 1991 Edition, ***[For BSC, NDS-97]*** and supplement are available from the American Forest and Paper Association, 1111 19th Street, NW, Eighth Floor, Washington, DC, 20036.

SECTION 2316 - DESIGN SPECIFICATIONS

2316.1 Adoption and Scope. The National Design Specification for Wood Construction, 1991 Edition (NDS), ***[For BSC, 1997 Edition (NDS) as amended by Sec. 2316.2]*** which is hereby adopted ***[For BSC except for item 14, 26 & 27]*** as a part of this code, shall apply to the design and construction of wood structures using visually graded lumber, mechanically graded lumber, structural glued laminated timber, and timber piles. National Design Specifications Appendix Section F, Design for Creep and Critical Deflection Applications, Appendix Section G, Effective Column Length, and Appendix Section J, Solution of Hankinson Formula are specifically adopted and made a part of this standard. The Supplement to the 1991 Edition National Design Specification, ***[For BSC, NDS-97]*** Tables 2A, 4A, 4B, 4C, 4D, 4E, 5A, 5B and 5C are specifically adopted and made a part of this standard.

Other codes, standards or specifications referred to in this standard are to be considered as only an indication of an acceptable method or material that can be used with the approval of the building official, except where such other codes, standards or specifications are specifically adopted by this code as primary standards.

2316.2 Amendments. …

Notation
Authority: [Health and Safety Code, Section 18934.5]
Reference(s): [Health and Safety Code, Sections 18928 & 18934.5]

PUBLIC COMMENT PERIOD

Written comments on the modifications may be submitted to CBSC by July 16, 2004 and at the following address:

California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833
Attention: Stanley T. Nishimura, Executive Director

Written comments may also be faxed to (916) 263-0959 or e-mailed to CBSC@dgs.ca.gov.

AVAILABILITY OF RULEMAKING DOCUMENTS

All of the information upon which the proposed regulations are based is contained in a rulemaking file, which is available for public review, by contacting the person named below.

Once the Final Statement of Reasons addressing public comment has been prepared, interested parties may obtain a copy by making a written request to the contact person named below.

CBSC CONTACT PERSON FOR PROCEDURAL AND ADMINISTRATIVE QUESTIONS

General questions regarding procedural and administrative issues should be addressed to:

Michael Nearman or Tom Morrison (back-up person)
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

Telephone No.: (916) 263-0916
Facsimile No.: (916) 263-0959

Specific questions regarding the substantive and/or technical aspects of the proposed changes to the building standards should be addressed to:

Michael Nearman, Code Analyst
California Building Standards Commission
(916) 263-5888
Michael.Nearman@dgs.ca.gov
(916) 263-0959