



The Commonwealth of Massachusetts

STATE BOARD OF BUILDING REGULATIONS AND STANDARDS

CODEWORD

Michael S. Dukakis
Governor

Kentaro Tsutsumi
Chairman

May, 1989

Charles J. Dinezio
Administrator

"IF YOU'RE NOT PART OF THE SOLUTION:"

Dear Building Official,

The State Board of Building Regulations and Standards will be holding a Public Hearing to consider proposed changes to the Code on May, 23, 1989 at 1:00 p.m. in Conference Room 1, 21st Floor of the McCormack State Office Building. This Public Hearing is one of two conducted each year in accordance with MGL, Chapter 143, Section 97. This Chapter allows that, "..., any person may propose amendments to the state building code."

As building officials, charged with the enforcement of the Code, you are its most frequent, and its most informed users. The Public Hearings to amend the Code present to you a challenge to improve this tool you work with daily.

A Code Change Proposal need not recommend a major technical revision to the code (although at each Public Hearing substantial changes are invariably presented). Many Code Change Proposals focus on the language and definitions of the Code, and suggest changes to the wording of the Code to clarify without changing its technical meaning. As a technical document, the Code will always have to contain engineering terms of precise and invariable meanings, however, as a document that you must "enforce", any clarifying changes you can recommend will help all Code users, including your fellow building officials.

We have all had difficulties in interpreting and "explaining" the Code: it's a complex document and its language is far from "simple". What I urge you to consider is the certain fact that if you have had problems interpreting the language of the Code, those problems are predictably shared by others. If, when you encounter a term that could be re-worded, or a phrase that could be re-stated, to clarify its meaning, or simplify its interpretation, you would make a note of it and submit your suggested improvement as a Code Change Proposal (on the appropriate form), you would be performing a valuable service to all Code users. (As a requirement of law, these proposals must be submitted at least sixty (60) days prior to the Public Hearing.)

I invite you to attend the Public Hearing at which several such proposals will be heard, and see for yourselves their value. No Code Change Proposal is too "simple" or "insignificant" to be carefully considered and adopted if it has the effect of clarifying the Code.

"If you are not part of the solution:"

Sincerely yours,

A handwritten signature in cursive script that reads "Charles J. Dinezio".

Charles J. Dinezio

PUBLIC HEARING PREVIEW

The State Board of Building Regulations and Standards will hold a Public Hearing on May 23, 1989 at 1:00 p.m. in Conference Room 1, 21st Floor of the McCormack State Office Building. The following is a selected list of Code Change Proposals to be heard:

Proposal to amend Section 424.0 Group Residence, to delete the criteria for self-preservation in the definition and in its place require compliance with Section 21 of the Life Safety Code of the National Fire Protection Association, governing residential board and care facilities.

Proposal to make "Childcare" a special Use Group and to discontinue the existing (I-2 and A-4) use group classifications by expanding Section 434.0 Day Care Centers to coordinate provisions with the Office for Children Regulations, especially regarding square foot (requirements) per child, age group classifications, area and height limitations, etc.

Proposal to change the definition of "Mezzanine" to read as follows: Mezzanine(s): An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than 33 percent of the floor area of the story in which the level or levels are located.

Proposal to add a new Section 609.6 Mezzanine egress: Every mezzanine which exceeds 2,000 square feet in area or has an occupancy load of 50 or more persons shall provide at least two means of egress which are separate and independent and remote as possible. Stairways which serve as an element of the means of egress from mezzanines shall not be required to be enclosed unless the total exitway access distance from any point on the mezzanine exceeds the allowable distances of Table 607.

Proposal to revise Section 513.1.4 to read: All exitways and common corridors, that do not conform to Section 506, in multi-family dwellings, etc. (remainder of section unchanged).

INSPECT, BUT DON'T "SURVEY"

Several building officials have recently inquired if they could be required to (or, generally, should) measure the distances from structures to property lines to determine conformance to zoning requirements, or conformance to the requirements of the Code for fire separation. To properly determine the "set-back" or location of a structure is a function regulated by the Massachusetts General Laws, Chapter 112, Section 81D, Definitions, "Practice of Land Surveying", requiring professional registration in accordance with the provisions of that Chapter which also (Section 81T) provides for penalties to be imposed on persons practicing land surveying without registration. For this very good reason, building officials should never attempt to perform measurements of this sort, particularly when the Code in Section 113.6, Site Plan, provides the proper method for obtaining these measurements.

Section 113.6 Site Plan: There shall also be filed prior to a permit being granted for the excavation or for the erection of any building or structure a site plan showing to scale the size and location of all new construction and all existing structures on the site, distances from lot lines, the established street grades if they exist (verified by the town or city) and proposed finished grades... This site plan, as explained above, must be prepared by a registered professional.

In the case of existing buildings to which no alterations are proposed (and in the absence of record documents/site plans) the assistance of your Town Engineer should be requested.

"LOBBYING" FOR SAFE EGRESS

The term "Lobby" (used here as a noun and in its non-political sense) may describe many configurations of "waiting", "reception", "vestibule", "foyer" and "other(?)" areas, and, for the building official, exitway areas which require particular attention to ensure code conformance, and, consequently, safe egress.

Article 2, Definitions, describes a "lobby" as; "The enclosed vestibule¹ between the principle entrance to the building and the doors to the main floor of the auditorium or assembly room of a theatre or place of assembly, or to the main floor (exitway access) corridor of a business building...", (parentheses added). This general definition, which focuses on assembly uses, is expanded by Section 611.0, Grade Passageways Used As An Exitway Element:

611.3 Lobby: An exitway may discharge into an interior lobby which shall be provided with an automatic fire suppression system and any other portion of the floor with access to the lobby shall be provided with an automatic fire suppression system or shall be separated therefrom in accordance with the requirements for the enclosure of exitways.

May more than one exitway stairway discharge through a lobby?

Yes, Section 611.5, Maximum stairway limitations, allows that, "Not more than fifty (50) per cent of the required stairways shall discharge through the same passageway." As a practical matter, however, in buildings requiring two stairways, only one may discharge through the lobby.

What requirements apply when the lobby is more than one story in height and, therefore, also an open well (an "atrium", or a "floor opening")?

If the open well is an atrium, an open space between two or more floors (by Definitions), and does not connect more than three levels (Section 437.1.3.1) it may contain an exitway as permitted by Section 616.10. Sections 437.1.3.2 and 616.10, both require that at least one other required exitway be accessible without passage through an atrium (or communicating floor level). As the atrium enclosure now contains an "unenclosed" stairway, the requirements for the enclosure of the exitway (Table 214) supercede the one hour requirement of Section 437.2.2.

If the open well is a floor opening, an opening between not more than two adjacent floors (by Definitions) it may contain a supplemental stairway conforming to Section 616.8, but may not serve as a lobby through which a required means of egress may discharge.

What are the interior finish requirements for lobbies?

When the lobby serves as a grade passageway (an element of an exitway) its interior finish must be Class I. When the lobby is simply an enclosed "waiting" room the interior finish requirements of the applicable use group will apply. (See Table 920 and its Notes for further specification.)

What other "uses", if any, may be present in a lobby?

The Code is not specific in this regard for one story lobbies; however, Section 437.1.2 controls for open wells and requires, "The floor of the open well shall not be used for other than low fire hazard uses and only approved materials and decorations may be used in the open well space." When suppression is required by Section 611.3, any approved use may be present (Section 437.1.2).

¹ This is the general case usage of the term "vestibule" which is more specifically addressed in Section 611.2, which limits the size and specifies the separation of the "air lock" type of vestibule most commonly encountered. (See also Section 612.8 Door arrangement, for code requirements for doors in series.)

CODEWORD

This issue's "CODEWORD" is the term construction control, which generally describes the requirements of Section 127 of the code. The construction of ALL buildings and structures (except one and two family dwellings and their accessory buildings, buildings used for agricultural purposes, retaining walls less than ten (10) feet high, and buildings enclosing less than 35,000 cubic feet of space) is "controlled" by this Section which prescribes certain specific responsibilities to the Architect/Engineer of record, the Contractor and the Building Official. For the requirements of Section 127 to be fulfilled, the building official must understand the obligations of the architect/engineer and contractor and exercise the discretionary powers available to him/her under this Section.

ARCHITECT/ENGINEER RESPONSIBILITIES

Acts in responsible charge of the design and construction of the project; including the certification of code compliance of the design and construction.

Reviews shop drawings, samples and other contractor submittals for compliance with the approved design.

Reviews and approves quality control procedures for controlled materials and provides special professional inspection of critical components involving those materials, i.e. testing of cast-in-place concrete, inspection of reinforcing steel, non-destructive testing of welded and bolted connections, etc..

Visits the job site on a regular and periodic basis to oversee the progress of the construction.

Makes periodic progress reports in a form acceptable to the building official.

At project completion, certifies code compliance and readiness for occupancy, identifying any deviations from the approved construction documents.

CONTRACTOR RESPONSIBILITIES

Executes all work in compliance with approved construction documents.

Executes all construction methods in a safe and satisfactory manner in accordance with all applicable statutes and regulations.

At completion of project, certifies the construction was accomplished in compliance with approved documents, in accordance with applicable statutes and identifies and pertinent deviations.

BUILDING OFFICIAL RESPONSIBILITIES

As the above summary indicates, the building official must require and receive certification, test reports (and other appropriate documents) which are timely, detailed and complete, and must use his/her judgment to set the proper frequency of progress reports. Although construction control requires the architect/engineer and contractor to certify their performance, it does not wholly absolve the building official of the responsibility of code enforcement. Section 127.5 states, "Nothing contained in this section shall have the effect of waiving or limiting the building official's authority to enforce the code with respect to the examination of the contract documents, including plans, computations and specifications and field inspections." In effect the requirements of construction control place certain responsibilities upon the architect/engineer and contractor, and relieve the building official of the necessity, but not the authority, to personally review and inspect, and substitute the responsibilities for recordkeeping and project oversight. It is the building official that "controls", through required certifications, reports and documents, construction subject to this Section.

RECENT STATE BUILDING CODE APPEALS BOARD DECISIONS

Section 127.7.11 (Contents of Decision) of the Code states, "Any decision shall not be considered by any person or agency as a precedent for future decisions."

Appeal Docket #87-150

The building official refused to issue a building permit for alterations to an existing mixed use structure which would replace a first floor laundromat with a restaurant (while no changes were contemplated to the three stories of apartments above the laundromat). The official cited Section 2205, Requirement For Change In Use Group To Two Or More Hazard Indices Greater, as requiring, "...the existing building shall conform to the requirements of the code for new construction," because the resultant mixed use building (A-3 and R-2) would contain the restaurant use which is assigned a hazard index of "5" (replacing the laundromat which is assigned a hazard index of "2"). The requirements for new construction of a mixed use building, as stated in Section 213.1.2, stipulate that, "The most restrictive height and area limitations in this code for the mixed uses shall apply to the entire building...". The building, considered to be Use Group A-3 and of Construction Type 3C, would exceed the height limitation (2 stories) of Table 305.

The appellant argued that as compliance with Section 2200.3.4, Applicability: Part change in use, would be achieved by providing horizontal fire separation (a two hour fire resistance rated assembly) between the two uses, and all other code requirements for the assembly use would be met, no further compliance alternatives could be required to meet the intent of Article 22.

The Board confirmed the building official's interpretation that Section 2205, as it directs the requirements for new construction, applies, and, consequently the mixed use building as proposed would violate the height limitations of Table 305. The Board determined that when any use in a mixed use building changes such as to introduce a use of a higher hazard index, the highest hazard index to be present must be the basis of the building official's application of Article 22. This violation results from the necessity of applying the most restrictive height and area limitations (of either use) to the entire structure (see Section 213.1.2). The Board voted that in addition to the horizontal separation of the uses, a suppression system to protect the basement and first floor would constitute an acceptable compliance alternative to allow the issuance of this permit.

Appeal Docket #88-24

The State Building Code Appeals Board exercised its review authority under Section 126.7.12 (and Section 126.7.14) which requires a copy of any decision by a local board of appeals to be transmitted to the State Building Code Appeals Board which board, "...may on its own motion appeal from the local appeals board's decision according to Section 126 and call for a hearing de novo."

The local (building code) board of appeals had granted to the local housing authority relief from a number of code requirements to allow the rehabilitation of several residential structures. The variances granted by the local board were to Sections 522.2, 609.2, 610.3, 611.4, 919.9 and 1216.3.2.1. The local board had accepted fire detection and suppression systems in all of the common areas of the structures, and increased tenant separation as compliance alternatives.

The State Building Code Appeals Board, while not necessarily in agreement with each argument of the Appellant (nor each decision of the local board), found that overall the alternatives proposed were acceptable, and that the relief granted did not present a danger to life or safety. The State Board determined that the "Evaluation of change in performance level" (see Appendix T, Section T-104.3) revealed that the level of performance of the buildings after alteration would not be below that (level) which existed before the change.

WHEN CODES CONFLICT

The State Building Code incorporates as reference standards a great number of documents identified in the Appendices to the Code (engineering practice standards, materials standards, fire protection standards, etc.). Although for the most part these standards do not conflict with the requirements of the Code, occasionally, conflicts will arise wherein the requirements of the Code will differ from the requirements of the reference standard. In these cases which requirements should be enforced by the building official?

An example of this conflict is found in Article 4, Section 433.1 which requires new facilities to be used as nursing homes, rest homes, etc. (Use Group I-2) to comply with the provisions of NFIPA 101, the Life Safety Code (NFIPA 101-76), and the applicable provisions of this code. The referenced Life Safety Code in Section 10-2.3.6.7.3, Exception No. 3, does not require that exitway access corridor doors be self-closing. Article 6, Section 610.4.1 of the Massachusetts State Building Code requires all exitway access corridors (serving an occupancy load greater than thirty) to be one-hour rated, and be provided with 20 minute labeled doors which are self-closing.

Two "rules" can be used by the building official to choose the applicable requirement:

1. When the Massachusetts State Building Code is explicit in a requirement, it must be invariably followed, and will always take precedence over the reference standard.
2. When the Massachusetts State Building Code is less than explicit and the reference standard is specific in its requirements, the reference standard should be followed.

In the case of the example, the requirement(s) of the Massachusetts State Building Code are both explicit and "stricter" and, therefore, must be followed. In other cases, which may be less clear, the building official should request an interpretation from the State Board of Building Regulations and Standards, or deny the permit stating the reasons (in writing) and encourage an appeal to the State Building Code Appeals Board.

ARCHITECTURAL ACCESS AWARENESS TRAINING

The Office of Handicapped Affairs in cooperation with the Architectural Access Board will be conducting awareness training for local inspectors (building and plumbing). The first series of this training will take place in April, May and June (see schedule below) and it is anticipated that further sessions will be scheduled throughout the Commonwealth. The training is scheduled to be conducted on Fridays with two sessions (9:30 to 12:30 and 1:30 to 4:30) being offered each day. Local building and plumbing inspectors will be sent letters of invitation and registration is requested. Questions may be addressed to Mr. Bruce Bruneau, Project Coordinator, Office of Handicapped Affairs, Telephone: 1-800-322-2020.

Waltham, Town Hall	April 21, 1989	Westwood, Central Fire Station	May 5, 1989
Methuen	May 12, 1989	Framingham, Town Hall	May 19, 1989
Plymouth, Town Hall	May 26, 1989	Wilmington	June 2, 1989

GYPSUM ASSOCIATION - CHANGE OF ADDRESS

The January edition of "CODEWORD" announced the availability free to building officials of the FIRE RESISTANCE DESIGN MANUAL of the Gypsum Association (a Reference Standards Agency of the State Building Code). Since that announcement the Gypsum Association has moved to a new address. To receive this useful publication (or other literature of this association) requests should be made on your department letterhead and sent to: Gypsum Association, 801 1st Street NE, Suite 510, Washington, DC, 20002.

TRAINING SEMINAR ANNOUNCEMENTS

The Board of Building Regulations and Standards will be conducting two series of training seminars for building officials in May, June and July. Building officials will receive letters of invitation/registration (which will also include directions and parking assignments) to be returned to the BBRB to confirm their intentions to attend.

COMMERCIAL BUILDING INSPECTION

A seminar series addressing Commercial Building Inspection will be presented by the Building Officials and Code Administrators International (BOCA) staff. The course will review the construction methods for steel, reinforced concrete and masonry construction of commercial structures, and the principles of inspection for these structures. Three one-day seminars (8:30 a.m. to 4:30 p.m.) are being offered in three separate locations:

HOLYOKE

MAY 18, 1989 Holyoke Community College - Room FR 271 303 Homestead Ave., Holyoke

BURLINGTON

MAY 31, 1989 Middlesex Community College - Auditorium Burlington Branch Campus
Terrace Hall Ave., Burlington

BROCKTON

JUNE 1, 1989 Massasoit Community College - Room C130 1 Massasoit Boulevard
Continuing Education Building Brockton

ARTICLE 20 - ENERGY CODE

A series of four one-day seminars to be presented in four separate locations is being planned for the months of June and July. Building officials will receive letters of invitation/registration when the final arrangements for these seminars have been made. The seminars will comprehensively cover the provisions of Article 20 and will be presented by the BBRB Staff.

Building officials are reminded that MGL, Chapter 143, Section 99 provides that no state or local inspector attending these seminars shall lose any rights relative to compensation or vacation.

CONSTRUCTION SUPERVISORS' LICENSE RENEWALS

On June 30, 1989 a large number of Construction Supervisors' licenses will expire. These licenses, the originally "grandfathered" licenses, which have had to be renewed once (June 1987), will reach their two year second expiration June 30th. Renewal notices have been sent, however, if the experience of the first renewal is a guide, many persons will not have reported changes of address and, consequently, will receive their renewal notices late, or not at all. Building officials are reminded (again, see the March issue of CODEWORD) to carefully check the Construction Supervisor's licence against other photo I.D. to verify its validity and its expiration date. Construction Supervisors who have not received a renewal notice should contact: The Department of Public Safety, Cashier's Office, 1010 Commonwealth Ave., Boston, MA, 02215, 617-566-4500.

INORGANIC ARSENICAL PRESSURE-TREATED WOOD

Spring is not only the "Foundation Season" for the building official, it is also the "Deck Season" when homeowner's, tired of brushing the dirt from dropped hot-dogs, construct "decks", so that the dropped hot dog will land on inorganic arsenical pressure-treated wood.

This wood, preserved by pressure treatment with an EPA-registered pesticide containing inorganic arsenic, is resistant to insect attack and decay. The EPA in a Consumer Information Sheet (9/85) cautions:

Inorganic arsenic penetrates deeply into and remains in the pressure treated wood for a long time. Exposure to inorganic arsenic may present certain hazards. Therefore,...precautions should be taken when handling treated wood and in determining where to use or dispose of the treated wood.

HANDLING PRECAUTIONS

Persons handling freshly treated material should wear rubber gloves. They should always wash with soap and water prior to smoking or eating. Contaminated clothing should be removed and laundered before re-use. The freshly treated wood has a dark color, but after a short seasoning period it develops a characteristic green to dark blue or brown shade, depending on the species. This color change is due to the chemical reaction with the wood as the preservative chemicals change to insoluble compounds.

Air-seasoned or kiln dried material may be safely handled without extraordinary precaution. It is advised, however, that good personal hygiene be observed prior to eating or smoking.

Avoid frequent or prolonged inhalation of sawdust. When sawing or machining wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid accumulations of airborne sawdust.

If preservatives or sawdust accumulate on clothes, launder before re-use and wash work clothes separately from other household clothing.

USE (LOCATION) PRECAUTIONS

Wood pressure treated with waterborne arsenical preservatives may be used inside residences as long as all sawdust and construction debris are cleaned up.

Do not use treated wood where the preservatives may become a component of food or animal feed.

Do not use treated wood for cutting boards or counter tops.

Only treated wood that is visibly clean and free of surface residue should be used for patios, decks and walkways.

DISPOSAL PRECAUTIONS

Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial construction sites may be burned only in commercial or industrial incinerators or boilers in accordance with state and federal regulations.