2009-2010 ICC CODE DEVELOPMENT CYCLE

UPDATES TO THE 2009/2010 FINAL ACTION AGENDA

TO THE INTERNATIONAL CODES

INCLUDES UPDATES TO:

INTERNATIONAL BUILDING CODE – Means of Egress

INTERNATIONAL BUILDING CODE – General

INTERNATIONAL FIRE CODE

INTERNATIONAL RESIDENTIAL CODE – Building

INTERNATIONAL EXISTING BUILDING CODE

INTERNATIONAL BUILDING CODE – Structural

INTERNATIONAL BUILDING CODE – Fire Safety

4/12/2010

The following is a compilation of updates and errata discovered to the Final Action Agenda after the posting of Monograph on March 15, 2010.

Updated 4/19/2010

See “Updated 4/19/2010” on page 23.

Updated 4/22/2010

See “Updated 4/22/2010” on page 9. Update is to IBC-General: G40-09/10

Updated 4/27/10

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Updated 4/28/10

See “Updated 4/28/10” on pages 16 and 23.

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Note: Code changes to be heard out of numerical order or to be heard with a different code designation are indented. Be sure to review the cross index on page xxxvii for code change which affect codes other than those under their respective code change number prefix.

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INTERNATIONAL BUILDING CODE – MEANS OF EGRESS

Add E77-KRANZ to E77-09/10 Public Comments:

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment 2:

Lee J. Kranz representing Washington Association of Building Officials Technical Code Development Committee, requesting Approval as Modified by this public comment.

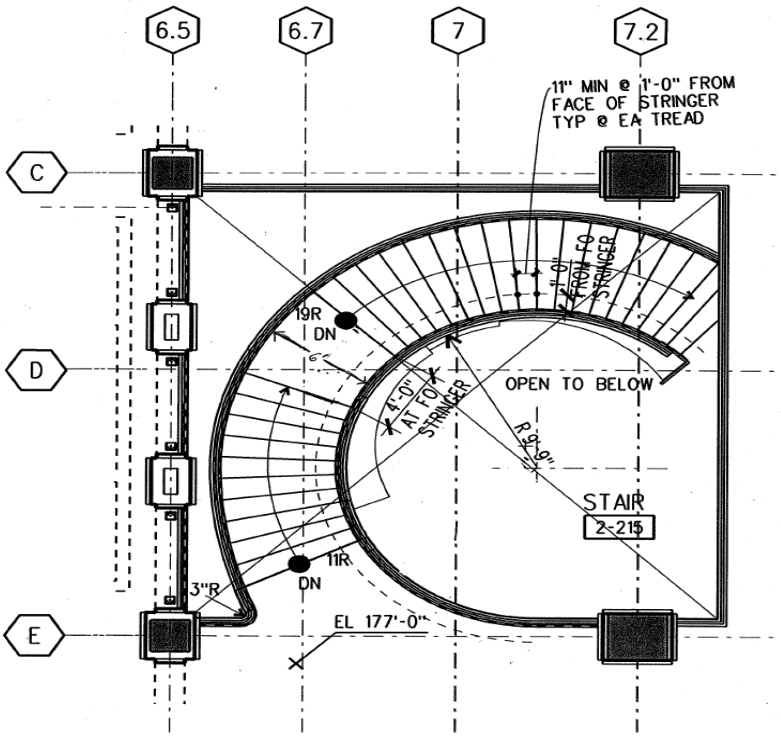
Modify the proposal as follows:

1009.5 Stairway Landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches (1219 mm) where the stairway has a straight or curved run. ~~Or where a curved stairway has a continuous radius~~. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When wheelchair spaces are required on the stairway landing in accordance with Section 1007.6.1, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Commenter's Reason: As advised by the Egress Committee in Baltimore, the language for this proposal has been modified to delete the term "continuous radius". The term "curved", as it applies a stairway, was relocated in the sentence to allow the option for the reduced landing length of 48" to apply to a curved or straight run stairway. If the required stairway width is less than 48" then the landing length is still allowed to be equal to but not less than the required width of the stairway but would never be allowed to be less than 44" (or 36" for occupant loads less than 50) per Section 1009.1.

Many stairways, such as monumental stairways, exceed the minimum required egress width and in those cases to require the length of the landing in the direction of travel to be equal to the width of the stair is impractical and takes up valuable floor space. Per Section 1005.1, the required egress width must be maintained until the termination of the means of egress so changes in direction of the stair, such as what occurs at a 90 or 180 degree turn, will not be allowed to be less than the required width of the stair.

Example of a monumental stair; not required for egress purposes. The stair width is 6'. The proposed language would allow the top, bottom and intermediate landings in a curved stair, such as this, to be not less than 4' in the direction of travel thereby saving space while maintaining safety.



Final Action: AS AM AMPC____ D

G9-09/10: Add Public Comment 2:

Public Comment 2:

Tony Crimi, A.C., Consulting Solutions Inc., representing North American Insulation Manufacturers' Association (NAIMA), requests Approval as Modified by this Public Comment.

Modify proposal as follows:

NONCOMBUSTIBLE INSULATION. A material installed for thermal or acoustical purposes, that will not ignite or burn when subjected to specified fire or heat conditions. Materials that meet the acceptance criteria of ASTM E 136 are considered non-combustible.

Commenter's Reason: There is no general definition of "□on-combustible material" or "non-combustible insulation" in the IBC. Section 703.4 identifies "Non-Combustibility Tests", but only for the purpose of providing criteria for acceptance of building materials related to types of Construction in Sections 602.2, 602.3 and 602.4 (i.e. Type I, II, III and IV construction). It further clarifies that the term "□on-combustible" does not apply to the flame spread characteristics of *interior finish* or *trim* materials, and states that a material shall not be classified as a □on-combustible building construction material if it is subject to an increase in combustibility or flame spread beyond the limitations herein established through the effects of age, moisture or other atmospheric conditions.

Several of the I-Codes have varying definitions of the term "non-combustible material", each based upon the way in which the concept of "non-combustible" is used within that Code. Throughout the ICC code system, the concept of "□on-combustible material" is based on the idea that the material should not ignite or burn when subjected to fire or heat

The IBC, which uses the term extensively, does not contain a specific definition for "non-combustible material". In terms of insulation materials, there is a need to clearly delineate requirements for flame spread, foamed plastics, and non-combustible insulations.

In common usage, the term "□on-combustible" is used to denote materials which do not ignite or are not capable of sustaining combustion. The common Dictionary definitions for "□on-combustible" are typically as follows:

Noncombustible, adj – not capable of igniting and burning (Webster's Third New International Dictionary of the English Language, Unabridged, 2007)

In the traditional use of the terminology and concept of "non-combustible" in the Codes has been based on acceptable performance when tested in accordance with ASTM E136, *Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C*. Materials passing the test are permitted limited flaming and other indications of combustion. However, these have traditional been acceptable. Understandably, ASTM E136 does not replicate the full spectrum of actual building fire exposure conditions. However, this test method does provide an assessment indicating those materials which do not act to aid combustion or add appreciable heat to an ambient fire.

While it is not possible to revise the proposal at this stage, it should be noted that ASTM has recently published another standard ASTM E2652-09, entitled *Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C*. This test method is similar to ASTM E136, and based more on the international standard (ISO) for noncombustibility. The key difference between the two standards is in the equipment. The apparatuses in this test method and in Test Method E 136 is that the furnace tube in this test method has a conical air-flow stabilizer section attached at its bottom. Both test methods use cylindrical furnace tubes. The test Standard does not include mandatory pass/fail criterion. It allows those criteria to be determined by the Codes or other users. Appendix X3 also contains a comparison of results obtained from this apparatus versus ASTM E136. The results are quite consistent. This will be addressed in future code change proposals.

This additional method should also now be incorporated into the IBC as an appropriate test method.

Updated 4/22/2010
(See page 11)

PUBLIC COMMENT IS MISSING FROM IBC-GENERAL STRING

G40-09/10

403.2.3.5 (New)

Proposed Change as Submitted

Proponent: Gary Lewis, Chair, ICC Ad Hoc Committee on Terrorism-Resistant Buildings

Revise as follows:

403.2.3 Structural integrity of exit stairway and elevator hoistway enclosures. For all high-rise buildings of occupancy category III or IV buildings in accordance with Section 1604.5, and for all buildings that are more than 420 feet (128 m) in building height, exit enclosures and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through ~~403.2.3.4~~ 403.2.3.5.

403.2.3.1 Wall assembly. The wall assemblies making up the exit enclosures and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

403.2.3.2 Wall assembly materials. The face of the wall assemblies making up the exit enclosures and elevator hoistway enclosures that are not exposed to the interior of the exit enclosure or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.
2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material each that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.
3. The wall assembly shall incorporate multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

403.2.3.3 Concrete and masonry walls. Concrete or masonry walls shall be deemed to satisfy the requirements of Sections 403.2.3.1 and 403.2.3.2.

403.2.3.4 Other wall assemblies. Any other wall assembly that provides impact resistance equivalent to that required by Sections 403.2.3.1 and 4.3.2.3.2 for Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M shall be permitted.

403.2.3.5 Blast resistance. The wall assemblies of stairway and hoistway enclosures, from the top of each floor to the underside of the floor or roof above and connections to supporting members, shall be capable of resisting a factored load using strength design, expressed as a uniform pressure, of not less than 2 psi (13.8 kPa) applied perpendicularly to the exterior of the enclosure. This load need not be assumed to act concurrently with the loads specified in Chapter 16 and shall be assumed to apply to one floor at a time.

Reason: The purpose of this change is to establish a standard for the structural robustness of exit stairway and elevator shaft enclosures. It implements Recommendation 18 of the National Institute of Standards and Technology (NIST) report on the World Trade Center (WTC) tragedy.

The Code has traditionally looked upon a stair enclosure as a place of relative safety. There are any number of carefully crafted code provisions designed to ensure that goal, but they are based upon only one hazard – fire. The enclosures of these stairways are made fire resistive through the traditional rating and listing system, but the Code does not establish a criterion for structural robustness. The proponents do not believe that the existing "hose stream" test addresses this issue. The hose stream does not and cannot represent the real world impact of blast loads that a stair shaft might encounter. Neither does the ongoing industry work designed to develop an impact resistance test standard. That work relates to durability rather than safety. The proponents believe that a structural standard is needed.

The stairway enclosures of the WTC were destroyed by an aircraft impact. Far lesser events, such as a gas explosion or a vehicle impact (on lower floors) can destroy a stairway enclosure, especially when one considers that the Code contains no structural criteria at all. The 2 psi load requirement is consistent with the overpressure associated with a gas explosion. NIST has performed an analysis to verify this statement. Any structural robustness that existing stairway enclosures have is a by-product of the fire rating process; a process that was never intended to provide structural integrity.

A new criterion is needed for exit stair enclosures – a structural one.

The NIST WTC Report suggests a standard based upon resistance to over-pressure. This approach has two real advantages. It reflects one possible damage scenario and can represent others as well. Secondly, it is a performance standard. All materials can be analyzed and engineered to comply.

Compliance with this standard is determined by engineering analysis, not a test. This is a simple and direct approach that can be implemented immediately.

Bibliography:

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: The code change proposal will increase the cost of construction. This proposal will increase the cost of construction but the continued absence of structural criteria for exit stairway enclosures is not possible. This is a cost that must be met for safety's sake.

ICCFILENAME: LEWIS-G4-403.2.3

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: The proposal would require the enclosure walls to resist more than the structure, floors and the stair framing are capable of withstanding. In the event of a blast it is preferable that the walls blow out rather than the floor collapse. The determination of this proposed pressure remains unclear and seems to be arbitrary – whether it be the 2 psi as originally proposed or the 1.3 psi offered as a modification. The ability of current enclosure wall systems to resist the proposed loading is questionable and there was not enough information provided on what types of enclosure construction could satisfy this requirement. The provision should also provide some direction to designers and building officials. There are questions on the testing of 8 feet high wall panels and the extrapolation of the results to greater height walls. Before taking this step, the committee would prefer to see the ASCE/SEI blast document that is being developed.

In addition, there appears to be a lack of an appropriate systems engineering approach to solving the problem. Instead there is some feeling of a preconceived notion of a solution to some vaguely specified problem. There's concern that we may spend the time and money strengthening stair enclosures, yet the next blast event could result in the same problem or create new problems that are worse than the one that we're attempting to solve. The reason airplanes are not designed for blasts is that there is no agreement on the size of the blast, yet that is what this proposal tries to do

inside the building. There's some concern that all this requirement would do is give a terrorist the information needed to size a bomb so that it will take out a stair enclosure.

Assembly Action: **None**

Updated 4/22/2010: Revise G40-09/10 Public Comment to request "As Modified by this Public Comment" as follows:

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gary Lewis (Chair), City of Summit, NJ, representing ICC Ad Hoc Committee on Terrorism Resistant Buildings, requests Approval as Modified by this Public Comment.

403.2.3 Structural integrity of exit stairway and elevator hoistway enclosures. For all high-rise buildings of occupancy category III or IV buildings in accordance with Section 1604.5, and for all buildings that are more than 420 feet (128 m) in building height, exit enclosures and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through ~~403.2.3.4~~ 403.2.3.5.

403.2.3.1 Wall assembly. The wall assemblies making up the exit enclosures and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

403.2.3.2 Wall assembly materials. The face of the wall assemblies making up the exit enclosures and elevator hoistway enclosures that are not exposed to the interior of the exit enclosure or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.
2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material each that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.
3. The wall assembly shall incorporate multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

403.2.3.3 Concrete and masonry walls. Concrete or masonry walls shall be deemed to sastify the requirements of Sections 403.2.3.1 and 403.2.3.2.

403.2.3.4 Other wall assemblies. Any other wall assembly that provides impact resistance equivalent to that required by Sections 403.2.3.1 and 4.3.2.3.2 for Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M shall be permitted.

403.2.3.5 Blast resistance. The wall assemblies of stairway and hoistway enclosures, from the top of each floor to the underside of the floor or roof above and connections to supporting members, shall be capable of resisting a factored load using strength design, expressed as a uniform pressure, of not less than ~~2.0 psi (13.8 kPa)~~ 1.3 psi (9.0 kPa) applied perpendicularly to the exterior of the enclosure. This load need not be assumed to act concurrently with the loads specified in Chapter 16 and shall be assumed to apply to one floor at a time.

Commenter's Reason: Proposal G40-09/10 is the last of a package of proposals by the ICC Ad Hoc Committee on Terrorism Resistant Buildings responding to Recommendation #18 of the National Institute of Standards and Technology (NIST) Final Report of the World Trade Center Disaster. Recommendation #18 calls for "*egress systems to be designed: (1)to maximize remoteness of egress components (i.e. stairs, elevators, exits) without negatively impacting the average travel distance;* ***(2) to maintain their functional integrity and survivability under foreseeable building-specific or large-scale emergencies*** (emphasis added)*; and (3) with consistent layouts, standard signage, and guidance so that systems become intuitive and obvious to building occupants during evacuations*."

The TRB Committee has already successfully implemented Parts 1 and 3 of this recommendation through successful prior code changes. The Committee respectfully requests support from the ICC membership to close the loop on Part 2. In many parts of the country, stair and elevator shafts are constructed of gypsum shaft wall assemblies, which have a well-documented proven track record of fire resistance. A shortcoming of that approach is that the fire endurance rating process was never intended to address structural robustness. The gypsum industry even acknowledged the inherent deficiency in structural resistance of some of these assemblies in the last code cycle by bringing forth a successful code proposal

requiring the use on ***impact***-resistant gypsum for such enclosures. What that approach fails to account for, however, is lateral force, or blast resistance. Impact resistance and blast resistance are two different phenomena.

As a follow-up to the WTC Report previously cited, NIST conducted subsequent testing of various shaftwall assemblies in common use to enclose elevators and stairs. That report, **NISTIR 7615**, *Gypsum Stairwell Enclosure Wall System Tests Under Static Uniform Pressures*, concluded that there are varying degrees of lateral force resistance among the many designs in common use that achieve the required 2-hour fire endurance. Selection of a particular design from among those is relevant for iconic structures as it provides much greater lateral force (blast) resistance than others. This proposal simply extracts the highest lateral force value from readily-available shaftwall designs and establishes that as the blast resistance measure for buildings greater than 420' in height where structural integrity of vertical exit components is most needed.

The Ad Hoc Committee believes the Structural Committee misunderstood fully what is being proposed. While 1.3 psi converts to nearly 190 psf, that value represents the wall's *ultimate* strength based on the NIST testing. It may exceed the *required* combined load *rating* for the floor, but the design load is clearly still much less than the ultimate strength of the structure or floor framing.

The value of 1.3 psi has been derived from test data that was simply not available when this provision was first introduced a few years ago. It is not the Ad Hoc Committee's intention to require new means, materials or methods to satisfy this provision; rather to require a deliberate selection *among available* design options for buildings of this height. The gypsum industry acknowledged in response to a question from the Committee about achieving this 1.3 psi design that it "*might be tricky, but possible*."

The IBC Structural Committee member's criticism regarding a 'lack of systems engineering approach to solving this problem' demonstrates the complexity of the issue of appropriate terrorism response. If, in fact, the 'load' represented by terrorism were known or clearly definable, the solutions would be apparent. This is the final proposal to increase the survivability of vertical exit paths…..not necessarily the exit enclosure *adjacent* to an explosive device…..but rather increase the potential survivability of the *remaining* stair enclosures which a prior successful TRB code change has now made physically remote from each other. The Ad Hoc Committee is unaware of any ASCE/SEI 'blast document' that is under development that addresses this issue.

Bibliography:

National Institute of Standards and Technology, Final Report of the National Construction Safety Team on the Collapse of the World Trade Center Towers, United States Government Printing Office: Washington, D.C., September, 2005. Also, see wtc.nist.gov.

National Institute of Standards and Technology, NISTIR 7615, *Gypsum Stairwell Enclosure Wall System Tests Under Static Uniform Pressures,* United States Government Printing Office: Washington, D.C., July, 2009

Cost Impact: This proposal will represent a minor increase in the cost of construction in having to select from a lesser number of available shaft wall designs to achieve this level of safety in super high-rise buildings.

TRB Funding Disclosure: Since the inception of the Ad Hoc-TRB Committee, the ICC has fully funded the travel expenses of the Committee Chair to present the code proposals developed by the Ad Hoc Committee. Given the current economic condition, the ICC is not able to fully fund travel expenses by the Committee Chair to present the TRB proposals to you. The National Institute of Standards and Technology, a federal agency in the U.S. Department of Commerce, through a grant to the National Institute of Building Sciences, has agreed to fund the TRB Chair's travel expense *deficit*….whatever amount ICC does *not* fund….with full disclosure to the ICC. NIST has not ever, nor would, play *any* role in the deliberations of the TRB Committee in our development of code change proposals. This is entirely consistent with ICC CP#28.

Final Action: AS AM AMPC____ D

Updated 4/27/2010

G48-09/10 Add New Section 3007.1.1 to *Proposed Change as Submitted*:

3007.1.1 Ambulance stretcher. At least one fire service access elevator shall be sized to accommodate a stretcher in conformance with Section 3002.4.

Make correction to G118-09/10

G118-09/10
Table 508.4

Note: The chart that is placed under Stephen Thomas' public comment is part to Eirene Oliphant's public comment.

	A-1 (2009)	A-1 (proposed)	A-2 (2009)	A-2	A-3 (2009)	A-3	A-4 (2009)	A-4	A-5 (2009)	A-5	B (2009)	B	E (2009)	E	F-1 (2009)	F-1	F-2 (2009)	F-2	H-1 (2009)	H-1	H-2 (2009)	H-2	H-3 (2009)	H-3	H-4 (2009)	H-4	H-5 (2009)	H-5	I-1 (2009)	I-1	I-2 (2009)	I-2	I-3 (2009)	I-3	I-4 (2009)	I-4	M (2009)	M	R-1 (2009)	R-1	R-2 (2009)	R-2	R-3, R-4 (2009)	R-3, R-4	S-1 (2009)	S-1	S-2 (2009)	S-2	U (2009)	U
A-1	N	-	N	2	N	2	N	2	N	2	2	2	N	2	2	3	1	2	NP	NP	4	4	3	3	3	2	3	4	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
A-2			N	-	N	2	N	2	N	2		2	N	2	2	3	1	2	NP	NP	4	4	3	3	3	2	3	4	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
A-3					N	-	N	2	N	2	2	2	N	2	2	3	1	2	NP	NP	4	4	3	3	3	2	3	4	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
A-4							-	N	2	2	2	N	2	2	2	3	1	2	NP	NP	4	4	3	3	3	2	3	4	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
A-5									-	2	2	N	2	2	2	3	1	2	NP	NP	4	4	3	3	3	2	3	4	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
B											-	2	2	N	3	N	2	NP	NP	NP	2	2	1	1	1	1	1	1	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	1	1
E												-	2	2	3	1	2	NP	NP	NP	4	4	3	3	3	2	3	3	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	1	1
F-1															-	2	3	NP	NP	NP	3	2	2	1	2	1	2	1	2	3	NP	3	2	3	2	3	N	3	2	3	2	3	2	3	N	3	2	3	N	3
F-2																-	2	NP	NP	NP	4	2	3	1	3	1	3	1	2	2	NP	2	2	2	2	2	2	2	2	2	2	2	2	3	N	2	N	1
H-1																	-	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
H-2																		-	NP	NP	-	NP	NP	1	NP	2	NP	2	NP	4	NP	4	NP	4	NP	4	3	4	NP	2	NP	4	NP	4	3	2	4	2	4	1
H-3																			NP	NP		-	NP	1	NP	1	NP	1	NP	4	NP	3	NP	3	NP	3	2	1	NP	3	NP	3	NP	3	2	1	3	1	3	1
H-4																			NP	NP			-	NP	1	NP	4	NP	4	NP	4	NP	4	2	1	NP	4	NP	4	NP	4	2	1	3	1	3	1
H-5																			NP	NP				-	NP	4	NP	4	NP	4	NP	3	2	1	NP	4	NP	4	NP	4	2	1	3	1	3	3
I-1																			NP	NP					-	NP	2	N	2	N	2	2	2	NP	2	NP	2	2	4	2	3	2	2				
I-2																			NP	NP						-	NP	2	N	2	N	2	NP	2	NP	2	NP	2	NP	2	NP	2	NP	1				
I-3																			NP	NP							-	N	2	2	2	NP	2	NP	2	NP	2	2	3	2	2	2	1				
I-4																			NP	NP								-	2	2	NP	2	NP	2	NP	2	2	3	2	2	2	1				
M																			NP	NP									-	2	2	2	2	2	2	N	3	2	2	2	1				
R-1																			NP	NP										-	N	2	N	2	2	3	2	2	2	1				
R-2																			NP	NP											-	N	2	2	3	2	2	2	1				
R-3, R-4																			NP	NP												-	2	3	2	2	2	1				
S-1																			NP	NP													-	2	3	2	3	2	3				
S-2																			NP	NP														-	N	1								
U																			NP	NP															-									

Change direction line from "Modify the proposal as follows" to "Replace the proposal as follows".

G125-09/10
Table 508.4

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Maureen Traxler, City of Seattle Dept. of Planning & Development, requests Approval as Modified by this public comment

Replace the proposal as follows:

Table 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

Occupancy	A[d], E		I-1, I-3, I-4		I-2		R		F-2, S-2[b], U		B, F-1, M, S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A[d], E	N	N	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
I-1, I-3, I-4	-	-	N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
I-2	-	-	-	-	N	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP
R	-	-	-	-	-	-	N	N	1[c]	2[c]	1	2	NP	NP	3	NP	2	NP
F-2, S-2[b], U	-	-	-	-	-	-	-	-	N	N	1	2	NP	NP	3	4	2	3[a]
B, F-1, M, S-1	-	-	-	-	-	-	-	-	-	-	~~N~~ 1	~~N~~ 2	NP	NP	2	3	1	2[a]
H-1	-	-	-	-	-	-	-	-	-	-	-	-	N	NP	NP	NP	NP	NP
H-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	NP	1	NP
H-3, H-4, H-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1[e,f]	NP

For SI: 1 square foot = 0.0929 m^2.

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.

(Notes a through f to the table remain unchanged.)

Commenter's Reason: Table 508.4 allows an unrated separation between B/M occupancies and F-1/S-1 (moderate-hazard) occupancies yet requires a 2-hr separation between B/M occupancies and F-2/S-2 (low-hazard) occupancies. It is not appropriate to require a higher level of separation from an occupancy of lower hazard. To address some of the issues raised during testimony on this proposal, rather than reducing the separation requirement of the low-hazard occupancies to match the separation requirement of the moderate-hazard occupancies (as was done in the original proposal), this modification increases the separation requirement of the moderate-hazard occupancies to match the separation requirements of the low-hazard separation requirements.

Final Action: AS AM AMPC____ D ICCFILENAME: G125.doc

Add staff analysis to Public Comment 1:

F144-09/10

910 (IBC [F] 910), 2306, Chapter 47 (IBC Chapter 35)

Staff Analysis: Staff analysis : In his reason statement, the proponent has noted that an ethics complaint (relating to Council Policy #37) has been filed with ICC concerning testimony offered on code change F144-09/10 at the Baltimore Code Development Hearings. The Executive Committee (EC) of the ICC Board has met and reviewed the complaint. The EC concluded that it is not the intent of CP #37 to govern the conduct of the hearings relating to the veracity or intent of technical statements made at the hearings. The EC's view is that the hearings themselves – which by their very nature afford the opportunity for a wide variety of assertions and opinions to be made and rebutted in an open forum – are the proper venue for resolution of substantive and technical issues relating to code content. As such, the EC has concluded that CP #37 does not apply. The resolution of those concerns needs to occur at the hearing itself. The open forum provided at the Final Action Hearings is the appropriate forum for debating the issues surrounding the basis for IFC's committee action in Baltimore, as well as for consideration of any new information contained in the public comments submitted in response to the committee's action.

RB23-09/10: Replace Section R302.2.1 to show new text underlined (items 1-4) as follows (*remainder of public comment remains unchanged*):

RB23-09/10
R302.2.1

R302.2.1 Continuity. The fire-resistance-rated walls and/or assemblies~~y~~ separating *townhouses* shall form a continuous fire-resistance rating that is ~~be~~ continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed *accessory structures*.

Where a roof or floor assembly breaks the continuity of the fire-resistance rated wall, fire blocking shall extend from the top of the wall framing to the bottom of the floor or roof sheathing above. The following shall be considered acceptable fire blocking materials when designed and installed in the interstitial space above the fire-resistance rated wall:

1. Two layers of 2 inch nominal lumber fire blocking,
2. Two layers of 1-1/8 inch engineered rimboard,
3. Two layers of 5/8 inch Type X gypsum wallboard,
4. Two layers of 23/32 inch wood structural panels or
5. Other approved materials with equivalent fire resistance.

Add RB44-09/10 to the Public Comments:

RB44-09/10
R311.3

Proposed Change as Submitted

Proponent: Rick Davidson, City of Maple Grove, MN

Revise as follows:

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent).

Exception: ~~Exterior~~ Doors, other than the required exit door, serving exterior balconies ~~less than 60 square feet and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel~~.

Reason: An arbitrary limit on the size of landings at balconies serves no purpose when they don't serve as the required exit door. There is also no reason to prohibit a window from opening onto one of these balconies ("only accessible from a door"). This amendment would eliminate unnecessary regulation and simplify the language.

Cost Impact: The code change proposal will not increase the cost of construction.

ICCFILENAME: DAVIDSON-RB-2-R311.3

Public Hearing Results

Committee Action: **Disapproved**

Committee Reason: Based upon the proponent's request for disapproval. This section gives the requirements for landings but the proposal gives requirements for doors. This proposal is inconsistent with the intent of the section.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Rick Davidson, representing self, requests Approval as Modified by this Public Comment.

Modify the proposal as follows

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent).

Exception: Doors, other than the required exit door, serving exterior balconies provided that the floor of the balcony is not more than 7 ¾ inches (196 mm) below the top of the threshold.

Commenter's Reason: This proposal was requested to be disapproved because the original proposal would not have regulated how far below the threshold of the door the balcony floor must be. This proposal corrects that defect and deletes unnecessary regulation including the unnecessary area limitation and the implication that the balcony could not serve a window.

It is important to keep in mind that this balcony does not serve as a required exit and is used as a viewing balcony only. As originally proposed, these balconies may only project a foot or two from the building.

This proposal eliminates unnecessary restrictions on exterior balconies not used as an exit.

Final Action: AS AM AMPC____ D

RB84-09/10: Correction to Desired Action. Change from "Disapproval" to "Approval as Submitted":

RB84-09/10

R501.3 (New), Chapter 44 (New)

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeff Hugo, CBO, National Fire Sprinkler Association, requests Approval as Submitted.

Commenter's Reason: I disagree with the committee's statement. The codes are full of "what ifs", and it is the building official's job to contemplate these situations to protect the citizens in their communities.

This proposal does address light frame construction; note the section it is quoted in – IRC Section R503.1. No other proponent or proposal could clearly identify or prove by the referenced testing that other than fire sprinklers can adequately protect the light framing construction for the citizens and those who need to enter the structure. According to the referenced testing, the best that could be done is 30 minutes without sprinklers. 30 minutes until collapse, but what is often missed are the reports stating that the minimum live loading is lost in much less time (20 minute range). Response times of fire departments, time to setup and gather information, identify the location of those trapped…is less than 30 minutes the best we can do for our fire fighters?

We know by several years of debating in the IBC and IFC that no vertical or horizontal fire resistive barrier can be effective without proper penetration protection. If covering over light weight construction is preferred over sprinklers, no protection of penetrations is required, leaving the building official, home owner, and fire fighter with a false sense of security. Building officials knowing the IBC will have wide ranging interpretations thus affecting the home builders from jurisdiction to jurisdiction to guess, again. This was not the point of creating a single code.

Lighting, duct openings, vent/drain piping, stairs to name a few, will allow fire to spread through the concealed spaces very quickly. If a covering is preferred, then the IRC debates for years to come will have attempts to draftstop, protect penetrations with listed material, etc., which will add costs beyond the sprinkler system installed to protect the light weight framing.

Final Action: AS AM AMPC____ D

Add RB183-09/10 Public Comment:

RB183-09/10

Appendix R (New)

Proposed Change as Submitted

Proponent: Joseph R. Hetzel, PE, Thomas Associates, Inc., representing Door & Access Systems Manufacturers Association (DASMA)

Add new text as follows:

APPENDIX R
AUTOMATIC VEHICULAR GATES

SECTION AR101
GENERAL

AR101.1 General. The provisions of this appendix shall control the design and construction of automatic vehicular gates installed on the lot of a one- or two-family dwelling.

SECTION AR102
DEFINITIONS

AR102.1 General. For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to the lot of a one- or two-family dwelling, and that is not intended for use by pedestrian traffic.

SECTION AR103
AUTOMATIC VEHICULAR GATES

AR103.1 Vehicular gates intended for automation. Vehicular gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

AR103.2 Vehicular gate openers. Vehicular gate openers, when provided, shall be listed in accordance with UL 325.

SECTION AR104
ABBREVIATIONS

AR104.1 General

ASTM – ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428

UL – Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

SECTION AR105
STANDARDS

AR105.1 General

ASTM
F2200-05, Standard Specification for Automated Vehicular Gate Construction…..AR103.1

UL
325-2006, Door, Drapery, Gate, Louver, and Window Operators and Systems…..AR103.2

Reason: The purpose of the proposed code change is to address an omission in the IRC by including an Appendix section on Automatic Vehicular Gates, and to also harmonize the IRC with the IFC and the IBC regarding the subject. The 2009 IFC utilizes the proposed language in Sections 503.5 (required gates or barricades), 503.6 (security gates) and Appendix D103.5 (fire apparatus access road gates). The 2009 IBC utilizes the proposed language in Section 3110. The only deviation from the language in the IBC is the definition of "automatic gate" which has been modified to fit the scope of the IRC.

The current Code provisions are inadequate because public safety needs are not addressed regarding automatic operation of vehicular gates. Protection is needed from potential entrapment of individuals between an automatically moving gate and a stationary object, or surface, in close proximity to such gate. Gates intended for automation require specific design, construction and installation to accommodate entrapment protection to minimize or eliminate certain excessive gate gaps, openings and protrusions identified as contributing to the hazard of entrapments that have historically caused numerous serious injuries and deaths.

The Code will be improved by including provisions referencing UL 325 and ASTM F 2200. UL 325 is an ANSI recognized safety standard containing provisions governing gate openers. Gate openers listed to the requirements of UL 325 provide the public with assurance that safety requirements have been met for such openers. ASTM F 2200 is a consensus document containing provisions governing the construction of vehicular gates intended for automation, and has been harmonized with the applicable provisions of UL 325.

Death and injury data does exist associated with automated vehicular gates. A previous related proposal on the topic, submitted in 2002 by the Consumer Product Safety Commission and designated as E34-02, pointed out the following information compiled by the CPSC from 1985 to that time:

1. Reports of 32 deaths relating to automatically operated vehicular gates were received, many as a result of entrapment between a moving gate and a stationary object.
2. Data from the National Electronic Injury Surveillance System estimated that approximately 2,000 people are treated annually in hospital emergency rooms due to injuries in such gates. Many of these injuries have been identified as serious, involving amputation, broken arms and broken legs.

Cost Impact: The code change proposal will increase the cost of construction. However, the resulting safety benefits will outweigh the increased cost.

Analysis: A review of the standard proposed for inclusion in the code, ASTM F2200 and UL 325, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: Hetzel-RB-2-Appendix R

Public Hearing Results

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action: **Disapproved**

Committee Reason: The committee feels this is outside the scope of the IRC and would be better if left to the Zoning Code. UL 325 is already in the code and would provide the required safety without ASTM F 2200. Sections AR104.1 and AR105.1 is handled elsewhere in the code.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Joseph R. Hetzel, PE, Thomas Associates, Inc., representing the Door & Access Systems Manufacturers Association, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

APPENDIX R
AUTOMATIC VEHICULAR GATES

SECTION AR101
GENERAL

AR101.1 General. The provisions of this appendix shall control the design and construction of automatic vehicular gates installed on the lot of a one- or two-family dwelling.

SECTION AR102
DEFINITIONS

AR102.1 General. For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

VEHICULAR GATE. A gate that is intended for use at a vehicular entrance or exit to the lot of a one- or two-family dwelling, and that is not intended for use by pedestrian traffic.

SECTION AR103
AUTOMATIC VEHICULAR GATES

AR103.1 Vehicular gates intended for automation. Vehicular gates intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

AR103.2 Vehicular gate openers. Vehicular gate openers, when provided, shall be listed in accordance with UL 325.

~~**SECTION AR104**~~
~~**ABBREVIATIONS**~~

~~**AR104.1 General**~~
~~ASTM – ASTM International~~
~~100 Barr Harbor Drive~~
~~West Conshohocken, PA 19428~~
~~UL – Underwriters Laboratories, Inc.~~
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~~**SECTION AR105**~~
~~**STANDARDS**~~

~~**AR105.1 General**~~

~~**ASTM**~~
~~F2200-05 Standard Specification for Automated Vehicular Gate Construction…..AR103.1~~
~~**UL**~~
~~325-2006 Door, Drapery, Gate, Louver, and Window Operators and Systems…..AR103.2~~

Commenter's Reason: We would like to address Committee comments pertaining to their disapproval of the original proposal.

Committee comment part 1. The Committee felt that it (the original proposal) was outside the scope of the IRC, and would be better if left to the Zoning Code.

Response: The proposal is not outside the scope of the IRC. Inclusion of this proposed Appendix is very similar in intent to existing Appendix G which addresses swimming pools. Swimming pools and automated vehicular gates have the following in common:

They can be constructed on the lots of one- and two-family dwellings
Serious safety related matters must be taken into consideration to protect individuals in the vicinity of these items
CPSC data has shown that there have been hazards that have resulted in deaths and injuries
Standards have been developed to address the hazards, which include provisions for means of entrapment protection (Note: The risk hazard for entrapment in swimming pools includes drowning; the risk hazard for vehicular gates includes asphyxiation)

Committee comment part 2. UL 325 is already in the code and would provide the required safety without ASTM F 2200.

Response: The UL 325 reference in the code applies to automatic garage door opener provisions currently in the code. No code provisions exist for automated vehicular gates. Both UL 325 and ASTM F2200 need to be referenced for automated vehicular gates; UL 325 addresses vehicular gate operators and ASTM F2200 address construction of vehicular gates intended to be automated.

Committee comment part 3. Sections AR104.1 and AR105.1 are handled elsewhere in the code.

Response: We agree with deleting those sections in the proposal. This is an editorial change.

Final Action: AS AM AMPC____ D

EB72-09/10: Add Table to Public Comment 1:

EB72-09/10
Appendix C (New)

Replace Table C104.5.2 as follows:

TABLE C104.5.2
SPACING OF LAG OR MASONRY SCREWS USED TO
CONNECT SILL PLATE OF GABLE END WALL TO TOP OF THE WALL BELOW

Exposure Category	Basic Wind Speed (mph)	Spacing of Lag or Masonry Screws (inches)
C	110	19
C	120	16
C	130	14
C	140	14
C	150	10
B	110	24
B	120	20
B	130	18
B	140	15
B	150	13

S40-09/10: Public Comment has been withdrawn by proponent. Item is removed from the Individual Consideration Agenda and placed on the Consent Agenda.

S40-09/10

Table 1604.5, 1705.3.3, 1707.7

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Philip Brazil, PE, SE, representing self, requests Approval as Modified by this Public Comment.

Withdrawn by Proponent

S84-09/10: Add proponent line for Public Comment 1. Change the instruction line from "Modify" to "Further Modify"

S84-09/10

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Jim Rossberg, Structural Engineering Institute of ASCE, representing self; Eric Stafford, representing self, requests Approval as Modified by this Public Comment.

Further modify the proposal as follows:

1609.1.2.2. Modifications to ATM E 1996. Section 6.2.2 of ASTM E 1996 shall be modified as follows:

6.2.2	Unless otherwise specified, select the wind zone based on the basic wind speed as follows:
6.2.2.1	*Wind Zone 1* – 130 mph ≤ basic wind speed < 140 mph, and Hawaii.
6.2.2.2	*Wind Zone 2* – 140 mph ≤ basic wind speed < 150 mph at greater than 1.6 km (one mile) from the coastline. The coastline shall be measured from the mean high water mark.
~~6.2.2.3~~	~~*Wind Zone 3* – basic wind speed ≥ 150 mph, or basic wind speed ≥ 140 mph and within 1.6 km (one mile) of the coastline. The coastline shall be measured from the mean high water mark.~~
6.2.2.3	*Wind Zone 3*—150 mph (58 m/s) ≤ basic wind speed ≤160 mph (63 m/s), or 140 mph (54 m/s) ≤ basic wind speed ≤160 mph (63 m/s) and within 1.6 km (one mile) of the coastline. The coastline shall be measured from the mean high water mark.
6.2.2.4	*Wind Zone 4*—basic wind speed >160 mph (63 m/s).

(Portions of proposal not shown, remain unchanged).

Commenter's Reason: The purpose of the modification proposed in this public comment is simply to correlate the wind zones in the 2009 Edition of ASTM E 1996 with the new wind speed maps in ASCE 7-10 as proposed in S84-09/10. During the preparation of the original code change, an older version of ASTM E 1996 which didn't include Wind Zone 4 or slight changes to Wind Zone 3 that is reflected in ASTM e 1996-09. Approval of S84-09/10 as modified by this public comment is needed so that the delineation of the wind zones are modified consistently by this section in the IBC.

INTERNATIONAL BUILDING CODE – FIRE SAFETY

FS20-09/10: Figures are referenced in the Reason statement for the public comment.

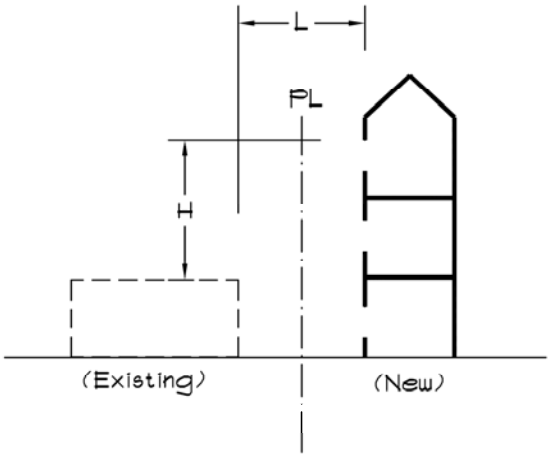

Fig. 1

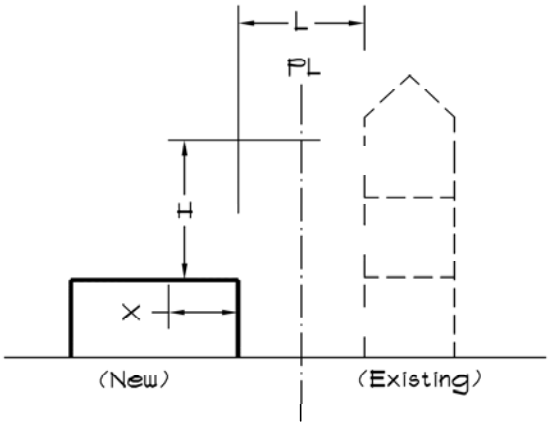

Fig. 2

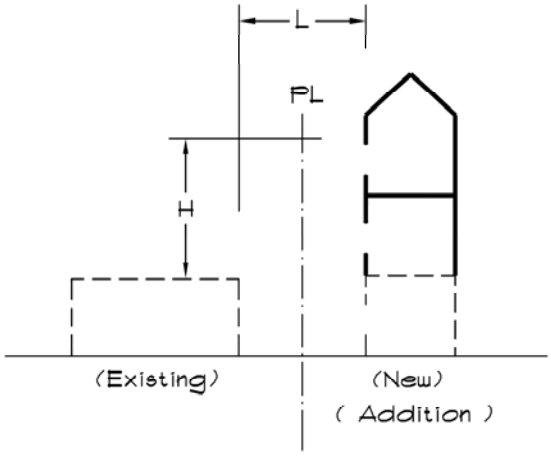

Fig. 3

New Construction
Existing Const.

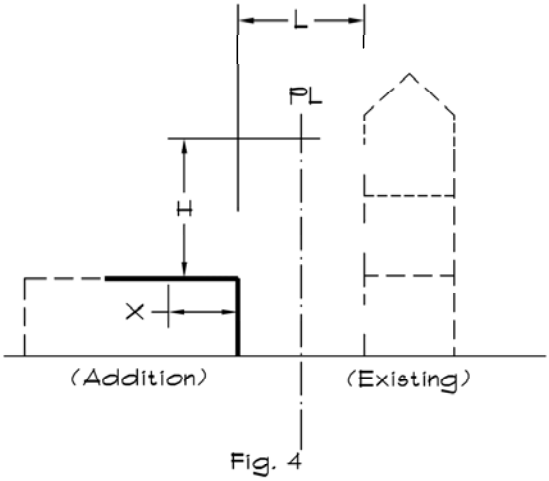

Fig. 4

FS149-09/10: See below for corrections to Public Comment 1 and Public Comment 2:

FS149-09/10
1405.7

Public Comment 1:

In item 2 revise the proposed diameter of the 8d annular threaded nails from .113 inches to 0.120 inches (3.05 mm).

Public Comment 2:

In item 2 revise the proposed diameter of the 8d annular threaded nails from .131 inches to 0.120 inches (3.05 mm).