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The attached document, “A Review of Current Statewide Building Codes and Recommendations for Enhancement in Coastal Regions of Maryland” was completed and approved prior to the accession of the current state administration under Governor Larry Hogan and Lt. Governor Boyd K. Rutherford.

This document remains in force, and has been unchanged and unedited from its original format.





A REPORT TO THE GOVERNOR AND THE
MARYLAND GENERAL ASSEMBLY:
A Review of Current Statewide Building Codes and
Recommendations for Enhancement in Coastal Regions of Maryland

Prepared by
Maryland Department of Housing and Community Development
in accordance with Section 2 of the Omnibus Coastal Property Insurance
Reform Act of 2008 (Act), Chapter 540 (House Bill 1353)

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Introduction

The Maryland Department of Housing and Community Development (DHCD) is pleased to submit this report in order to comply with Section 2 of the Omnibus Coastal Property Insurance Reform Act of 2008 (Act), Chapter 540 (House Bill 1353 or HB1353), which states:

“AND BE IT FURTHER ENACTED, That the Maryland Department of Housing and Community Development shall review current statewide building codes and develop enhanced building codes for coastal regions of the State that promote disaster-resistant construction in the coastal regions of the State. The Department shall report their findings and recommendations, subject to Section 2-1246 of the State Government Article, to the Senate Finance Committee and House Economic Matters Committee on or before October 1, 2010. The enhanced building codes shall be provided to the planning boards of the counties in the coastal areas of the State.”

Although often taken for granted, the ongoing review, development, adoption and implementation of suitable building codes is of paramount concern for the public health, safety, and general welfare of people in Maryland. In coastal areas, preventing public and private losses requires specific attention to concerns such as flooding, severe storms, wind, and tidal conditions.

Most of us remember severe events, such as Hurricane Isabel (2003), and the disruption and destruction that affected many Maryland coastal communities. While Maryland did not suffer as much in 2005, that year's storm activity was notable in other coastal areas of the country. In its preface to the 2008 Standard for Residential Construction in High-Wind Regions (ICC 600-2008), the International Code Council (ICC) reported that the “2005 Atlantic hurricane season produced a record-breaking 27 named tropical storms including a record 15 hurricanes. Of these, a record four reached Category 5 strength, the highest categorization for hurricanes on the Saffir-Simpson Hurricane Scale.”¹ Regarding damages from this level of activity, the ICC preface goes on to state that in “2004 and 2005 wind related damage exceeded \$20 billion each year. Much of this damage can be attributed to the inadequate resistance of nonengineered buildings to high winds.”

Recovering from events such as these can be eased significantly by ensuring that buildings are constructed in compliance with strong design standards that can both support occupant safety and prevent undue property damage. Ensuring a strong building code environment that can be managed well in coastal areas, however, is important not only to prevent damages from potentially severe events. A strong built environment is also crucial in preparing for more mundane or everyday natural hazards and conditions, particularly in sensitive coastal areas.

In fact, DHCD believes that the role of building codes in addressing a variety of concerns in coastal communities is a critical one. Enhancing and maintaining a strong, safe built

¹ ICC 600-2008: Standard for Residential Construction in High-Wind Regions; page ix (Preface).

environment is necessarily a joint effort in Maryland, which requires strong partnerships and planning by key state and local officials along with the active engagement of residents in coastal areas. These partners and stakeholders can benefit our coastal communities by bringing focused attention to the building code development, adoption, and implementation process, including ongoing review of emerging building technologies, building performance data, and other building-related activities in Maryland coastal areas.

Building Codes in Maryland

The Maryland Department of Housing and Community Development (DHCD) is charged with adopting the statewide building code known as the Maryland Building Performance Standards (MBPS)² under the Public Safety Article, Title 12, Subtitle 5 of the Annotated Code of Maryland (the “MBPS Statute”). The DHCD unit responsible for managing the statewide building code adoption process is the Maryland Codes Administration (MD Codes). MD Codes adopts the MBPS through the regulation process which includes a public informational hearing and a public comments period. Prior to starting the regulation process, MD Codes also seeks preliminary input from local building code officials on the requirements in the MBPS.

As required by the MBPS Statute, Maryland’s core building code is based on two International Code Council (ICC) publications – the International Building Code (IBC) and the International Residential Code (IRC). The IBC and the IRC are incorporated by reference into the MBPS regulations and form the critical foundation for the statewide MBPS. MD Codes also incorporates other codes recommended by the State Fire Marshal and the Maryland Department of Labor, Licensing and Regulation. The MBPS is updated by regulation every three years following the three-year cycle of the ICC for publishing new editions of the IRC and IBC. Except for energy conservation standards, DHCD may not adopt provisions in the MBPS that are more stringent than what is contained in the IRC and IBC.

The MBPS Statute requires local jurisdictions with building code authority to adopt the MBPS; however, local jurisdictions may amend the MBPS to suit local conditions (e.g., coastal communities may require stricter standards related to storm surge, wind, tides, etc.). Unlike DHCD, local jurisdictions can adopt more stringent standards than the IRC and IBC. Except for energy conservation standards, local jurisdictions may also adopt amendments that lessen certain requirements of the MBPS. DHCD does not have authority over the final form of the building performance standards that are implemented by local jurisdictions since local jurisdictions may make certain amendments and they also oversee compliance and enforcement activities within their jurisdictions. In addition, DHCD does not have authority over related development activities such as planning, zoning, environmental permitting, etc. Therefore, the successful adoption and implementation of building codes depend on strong partnerships between the state and local jurisdictions with code authorities. (The MBPS Statute and summaries of both state and local requirements are in Appendix B.)

² Annotated Code of Maryland, Public Safety, Title §12–503 Maryland Building Performance Standards.

Review & Findings

As required under Section 2 of HB 1353, DHCD reviewed current statewide building codes in order to develop recommendations for enhanced building codes that would promote disaster-resistant construction in coastal areas of the state. This section discusses those reviews and findings.

In addition to the normal code review, development, and training activities that occur on a three-year cycle, the MD Codes reached out to local code officials requesting specific information on building code activities in their jurisdiction, including updates to local amendments or ordinances, proposed adoption date of any new or updated codes, and a brief summary of anything else that they felt would address the need for stronger or enhanced building codes in coastal region code enhancements that should be considered in our report.

DHCD also hosted public forums³ for members of planning commissions and planning boards of local jurisdictions on alternative/enhanced building codes that are available for coastal communities concerned with mitigating potential storm damage and promoting disaster-resistant construction to the extent possible. An e-mail invitation was sent to a list of over 800 planning commission and board members throughout the state. Each of the forums provided attendees with an overview of Maryland's current building codes, a presentation of enhanced building codes, and a presentation by the Maryland Department of the Environment (MDE) on floodplain management issues.

Finally, DHCD held various discussions with staff from both the Maryland Emergency Management Agency (MEMA) and the Federal Emergency Management Agency (FEMA) regarding actions under consideration for the coastal areas of the state that may inform development and adoption of enhanced building codes in coastal communities.

The key findings from these and other reviews are detailed below.

1) Local building code officials

Several local jurisdictions responded to an initial request from DHCD in July of 2009 to provide information on their adopted local ordinances. Since that time, DHCD has adopted a later version of the MBPS. This most recent version of the MBPS was adopted by the state on January 1, 2010. Local jurisdictions had until July 1, 2010 to adopt, or amend and adopt, this most recent version, now known as the 2010 MBPS. As of the writing of this report, 19 of 50 jurisdictions have amended their codes and many others are in the process of going through their own legislative processes to do so. Those who do not adopt the MBPS with local amendments are deemed to have adopted the 2010 MBPS by default.

³ One public forum was held on the Eastern Shore (Chesapeake College) on July 28, 2010 and a second was held on the Western Shore (DHCD offices in Crownsville) on July 29, 2010.

As is typical following adoption of new building codes, the MD Codes issued a memorandum to all local building officials and other interested parties providing minimum design loads for earthquakes, snow, wind, and flood loads.⁴ During the adoption process in this three-year cycle, issues reviewed with local jurisdictions included:

- minimum design loads / snow
- high wind
- flood
- earthquake

The minimum design loads considered in the memorandum are based upon the information provided by the major local jurisdictions and the most conservative loads provided in the latest versions of the IBC and IRC for different groups of local jurisdiction areas.

It is important to remember that, regardless of these ongoing discussions between and among state and local building codes officials or of the updated MBPS adopted by the state every three years, local jurisdictions may still choose to amend any portion of the updated IBC and IRC that are contained within the MBPS (although they must act in accordance with regulations).

2) Standards and experiences of other coastal states

DHCD reviewed building code development in selected other states with significant coastal areas, particularly for requirements related to high wind and flood in their coastal areas. The four selected states were Florida, Louisiana, Texas, and North Carolina.

Florida

The State of Florida mandated statewide building codes in the 1970s when it required all municipalities and counties to adopt and enforce one of four state-recognized model codes. Following a period of natural disasters during the early 1990s, and faced with increasing complexity of building construction in a changed real estate market, Florida initiated a comprehensive review of the state building code system. The study revealed that building code adoption and enforcement was inconsistent throughout the state and those local codes thought to be the strongest proved inadequate when tested by major hurricane events. Negative consequences included devastation to lives and economies and a statewide property insurance crisis.

The response to this study was the creation of the Florida Building Code in 2002, which is the central piece of their new building code system that emphasized uniformity and accountability. This single statewide unified code is developed and maintained by the Florida Building Commission. It is administered and enforced by local jurisdictions and certain state agencies

⁴ A copy of the memorandum is attached hereto as Appendix C.

which may, under certain strictly defined conditions, amend requirements to be more stringent. This reformed building code system established: i) accountability for licensed contractors and designers and local enforcement jurisdictions and ii) building code education requirements and uniform procedures and quality control in a product approval system.

The Florida Building Code is based on a national model building code and national consensus standards and incorporates all state agency building codes and regulations. It has been harmonized with the Florida Fire Prevention Code. Together, the Florida Building Code and the Florida Fire Prevention Code contain all state standards for the design and construction of buildings in the state of Florida and it is updated on a three-year cycle.

The current version is the 2007 Florida Building Code, which is a fully integrated code based on the 2006 IBC, IRC and IEBC published by the International Code Council (ICC). The latest update to the code is the 2009 supplement to the Florida Building Code of 2007. The code focuses on public safety, “which includes incorporating up-to-date hurricane protection for structures. As part of the hurricane protection, the Coastal Construction Control Line (CCCL) program’s structural requirements were incorporated into the new code.”⁵

For one- and two-family dwellings, the 2006 IRC section R301.2.1.1 design criteria was replaced with the language allowing the use of the ICC 600-2008 Standard for Residential Construction in High-Wind Regions. Working with the ICC, Florida modifies the code to address specific areas where high winds and flooding are commonplace. All jurisdictions participating in the National Flood Insurance Program comply with Federal Emergency Management Agency (FEMA) requirements.

Louisiana

In Louisiana, the statewide adoption of codes was a direct result of the 2005 hurricane season and the threat of insurance companies withdrawing from the state. On December 2005, Louisiana Governor Kathleen Blanco signed a bill that calls for the state to adopt the International Building Code (IBC), International Existing Buildings Code (IEBC), International Residential Code (IRC), International Mechanical Code (IMC), and the International Fuel Gas Code (IFGC). The bill applies to buildings rebuilt in the wake of Hurricanes Katrina and Rita, and to all buildings built or rebuilt statewide starting in 2007.

Under the legislation, the 11 parishes hit hardest by the hurricanes had to put the new code into effect in 30 days if those parishes already have inspectors. If they did not, they had 90 days to begin enforcement. The bill also establishes a 19-member council to oversee enforcement of the codes by local governments. Louisiana has adopted the 2006

⁵ This information is from the Florida Department of Environmental Protection (DEP), which runs the Coastal Construction Control Line program, among other environmental programs. The Florida DEP Web site states that the CCCL program “has long been cited as an exemplary program in providing hurricane protection for structures along Florida’s coastline.” www.dep.state.fl.us/beaches/news/news.htm

editions of the IBC, IRC and IEBC. For one- and two-family dwellings the 2006 IRC section R301.2.1.1 design criteria was replaced with the 2003 IRC section R301.2.1.1 until the 2009 edition is adopted. Section R301.2.1.1 was also amended to allow the use of the ICC 600-2008 Standard for Residential Construction in High-Wind Region. No amendments were proposed by the insurance industry.

Every jurisdiction in Louisiana is required to enforce codes or hire an approved third-party provider. Also, contractors and home owners may hire approved third-party providers. In Louisiana, jurisdictions participating in the National Flood Insurance Program comply with FEMA requirements. Louisiana adopts codes statewide with mandatory enforcement at a local level. All technical amendments must be made by the Louisiana State Uniform Construction Code Council.

Texas

Since January 1, 2002, certain cities and counties in Texas have been utilizing the ICC codes. The IBC and IRC are required by Texas state statute when local municipalities and certain counties adopt building codes. Amendments are made by the adopting jurisdiction. Texas is a home rule state; thus, state law cannot override local law. Texas recently has adopted the 2006 IBC and IRC. The local building official approves plans – local governments may contract with third party providers to do this service. Jurisdictions participating in the National Flood Insurance Program comply with FEMA requirements. The Texas Department of Insurance requires property along the coast to be designed to a higher standard than the IRC.

A Windstorm Inspection Program notifies the general public, insurance agents, engineers, builders and inspectors of the applicable process, rules and regulations that apply only to structures located in the First Tier Counties along the Texas Gulf Coast as indicated in Section 2210.003(3) of the Texas Insurance Code.

The Windstorm Inspection Program was enacted by the Texas Legislature in 1987 (HB 2012) to mitigate losses to structures due to hurricanes along the Texas Gulf Coast. The inspection process, through the Texas Department of Insurance (TDI), began on January 1, 1988. To qualify for windstorm and hail insurance coverage through the Texas Windstorm Insurance Association (TWIA), new structures, alterations, additions, or repairs to existing structures, including re-roofs or roof repairs, located in the designated catastrophe areas must be constructed and inspected according to the building specifications adopted by TDI. Windstorm and hail insurance discounts are available for new homes that are constructed in accordance with the International Residential Code (IRC) and the International Building Code (IBC).

The Windstorm Inspection Program only applies to structures located in the designated catastrophe areas, known as Texas' First Tier Counties: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Refugio, San Patricio, Willacy and certain cities east of State Highway 146 in Harris County (La Porte, Morgan's Point, Pasadena, Seabrook, Shoreacres). The designated

catastrophe areas, designated as such by the Commissioner of TDI, need the windstorm and hail portion of their homeowner's insurance policy to be provided by the Texas Windstorm Insurance Association (TWIA).

There are certain areas along the Texas Gulf Coast which are located in areas that have been designated by the federal government as Coastal Barrier Resource Areas (COBRA). Construction in these areas may not be eligible for wind and hail coverage through the TWIA. In order for a structure located in a COBRA area to be considered insurable property for wind and hail insurance through TWIA, that property must have had a building permit or plat filed with the municipality, the county or the United States Army Corps of Engineers before June 11, 2003.

North Carolina

In North Carolina, the General Assembly of 1933 created a Building Code Council and authorized it to prepare and adopt a state building code in cooperation with the Commissioner of Insurance. The first State Building Code was adopted in 1935 and ratified by the 1941 General Assembly.

The most recent 2009 North Carolina State Building Code was adopted on January 1, 2009. North Carolina Building Codes are based on the 2006 International Building Code (IBC) and is composed of the both the 2006 IBC and North Carolina Amendments. The North Carolina Building Code Council (NCBCC) adopts the ICC code publications (also known as the I-Codes), which are applicable statewide. The NCBCC adopts amendments that are then applicable statewide.

Stakeholders, such as the homebuilding industry, participate in the process. The North Carolina Fire Code may be amended by local fire ordinance where it is shown to be more stringent than the State Code. A local floodplain ordinance may regulate and be more stringent than the State Code. The building code officials approve the permits. Some jurisdictions have separate floodplain inspectors that verify compliance, on behalf of the Code Official. The elevation certificate is provided to the code official by a Registered Design Professional. Most floodplain requirements are from FEMA. The NC Building Code Council adopted the I-Codes that are applicable statewide.

3) Experience of Other Maryland Entities with Coastal Communities

The Maryland Department of the Environment (MDE) acts as the State Coordinating Office for the National Flood Insurance Program (NFIP) to provide technical assistance on floodplain mapping issues, and on permitting activities associated with development within the floodplain. The NFIP is administered by the Federal Emergency Management Agency (FEMA), a component of the U.S. Department of Homeland Security (DHS). MDE's role is to ensure participating communities are in compliance with the regulatory requirements of the NFIP in order to maintain flood insurance and be eligible for disaster assistance within their jurisdictions. MDE currently is involved as the mapping coordinator in 17 Counties throughout the State

providing project management and support to digitally update the FEMA floodplains, and support these communities with outreach and education assistance.

One part of the map revision process requires local jurisdictions to update their local floodplain management ordinances (building and permit process) by the new map effective date. To assist local jurisdictions with this process, MDE has developed a new State model floodplain management ordinance that recommends higher regulatory standards than are minimally required for participation in the NFIP. There are many factors to consider when adopting a new ordinance including the type of floodplain mapped in the local jurisdiction. FEMA differentiates two main types of floodplain, riverine and coastal. Riverine floodplains are low lying areas along a river or stream, while coastal floodplains are along the coast and subject to wave action. The NFIP requirements in each type of floodplain are different. The State of Maryland further differentiates riverine floodplains into tidal and nontidal for regulatory purposes, and follows the standard 100-year, or 1% annual chance flood. FEMA's coastal regulations are typically the mechanism for mitigating impacts in coastal areas.

MDE works with communities statewide on building issues while the Maryland Emergency Management Agency (MEMA) works with the same communities on hazard mitigation issues. MEMA has been working with FEMA throughout the state to prepare communities for future storms. In addition, FEMA provides various coastal construction information publications, as listed below, for communities to consider. These publications are available from FEMA free of charge.

- * FEMA P-55 - Coastal Construction Manual (3 Volumes).
- * FEMA 320 - Taking Shelter From The Storm.
- * FEMA 321 - Public Assistance Policy Digest.
- * FEMA 361 - Design and Construction Guidance for Community Shelters.
- * FEMA 499 - Home Builder's Guide to Coastal Construction (Technical Fact Sheet Series).
- * FEMA 550 - Recommended Residential Construction for the Gulf Coast.
- * FEMA P-762 - Local Officials Guide for Coastal Construction.

DHCD hosted forums on July 28 and 29, 2010 with coastal regions who could consider modifying their local codes for high-wind and flood. A subject matter expert from the International Code Council and MDE presented specific information regarding what options were available, and what the planning boards could consider to promote disaster resistant construction.

Recommendations for Coastal Communities

Maryland, like most regions in the United States, is threatened by wind storms and hurricanes, flooding, and other natural disasters and conditions. Strong building codes, including those specific to the geographical area, provide the best protection to mitigate property damage and protect occupants' health and welfare. The International Code Council (ICC) has been working with coastal communities for many years to develop and enhance their building codes to provide the best protection for residential and commercial properties. It is evident from our review of Maryland and other states' building codes that the International Codes (I-Codes) published by the ICC will mitigate damages where adopted and implemented.

1) Therefore, DHCD strongly recommends that Maryland coastal communities adopt the 2010 MBPS, which includes the latest versions of the International Building Code (2009 IBC) and International Residential Code (2009 IRC).

2) DHCD further recommends that coastal communities follow the ICC nationally-developed code recommendations provided in the IBC and IRC chapters in order to establish wind and flood design loads specific to their local conditions. These are:

- A. The IBC Chapter 16 - Structural Design, Section 1609 - Wind Loads and Section 1612 – Flood Loads specifically addresses requirements to build a structure in a coastal region. Other loads such as soil lateral, rain, etc. are also included in this chapter. Appendix G of the IBC, relating to flood resistant construction, specifically, provides guidance to address minimum requirements for development located in flood hazard areas, including the subdivision of land, installation of utilities, placement and replacement of manufactured homes, new construction, and repair reconstruction, etc. Included in the objective of this appendix is compliance with the National Flood Insurance Program.
- B. The International Residential Code (IRC) is designed specifically to meet these needs in one- and-two family dwellings and townhouses. Chapter 3, Building Planning -- Section R301 of the IRC specifically addresses requirements to build one- and-two family dwellings and townhouses.

3) In addition, DHCD recommends that enhanced designs be considered locally, specifically:

- A. Adopt the ICC 600-2008. The International Code Council (ICC) has developed a standard for residential construction in high-wind regions, which is the ICC 600-2008. This standard, along with the 2009 IRC and other referenced codes, specifically deals with design requirements for coastal areas.
- B. The Standard for Residential Construction in High-Wind Regions (ICC 600-2008) provides wind-resistant design and construction details for residential buildings. High-wind regions include the hurricane prone regions of the east and gulf coasts,

coastal Alaska, and the special wind region of the Columbia River Gorge in Washington and Oregon.

- C. ICC 600-2008 includes prescriptive designs for cold-formed steel framing as well as masonry, concrete and wood- framed construction. The standard provides prescriptive requirements and other details of construction for buildings sited in wind climates of 100 to 150 mph in 10 mph increments.
- D. For wood frame construction, the referenced document is *ANSI/AF&PA Wood Frame Construction Manual (WFCM) 2001 Edition*, written by the American Forest and Paper Association.
- E. For cold-form steel construction the referenced document is *ANSI/AISI/S230 Standard for Cold-Formed Steel Framing-Prescriptive Method for One- and Two-Family Dwellings*, written by the American Iron and Steel Institute.

Conclusion

The recommendations set forth herein should be considered the minimum next step for local jurisdictions in coastal areas to enhance and strengthen their building codes. Coastal communities must be prepared for hurricanes, storms, floods and other severe weather events that may occur from time to time or that may be part of ongoing or changing tidal and climate patterns.

To continue to assist all local jurisdictions, including those in coastal communities that are faced with the specific conditions discussed in this report, DHCD will:

- Continue to work with local jurisdictions to review building codes and update design requirements, including those requested by local officials, as they are developed, updated, and adopted, every three years on the ICC timeline.
- Provide and enhance training programs that focus on the latest construction techniques as provided in the ICC 600-2008 standards for residential construction in high-wind regions, as funds permit.
- Continue to work with the Maryland Commission on Climate Change to enhance building codes and provide training to local jurisdictions.
- Continue to work with all state agencies, including the Maryland Department of the Environment (MDE), Department of Natural Resources (DNR), Maryland Department of Planning (MDP), the Department of Labor, Licensing and Regulation (DLLR), and the State Fire Marshal to coordinate information, technical advice, training, and other activities efficiently and to greatest effect possible, leveraging state resources wisely.

- Continue to work with both FEMA and MEMA in supporting emergency management in Maryland through promotion of a strong Maryland building code environment.

Sustained attention and cooperation among all stakeholders will be crucial to the continued advancement of the best possible building code environment for all of Maryland, but especially for coastal areas. DHCD is committed to this work for the safety, benefit, and protection of our treasured coastal communities and all Maryland residents.

APPENDICES

Appendix A: Acronyms & Definitions

Appendix B: Maryland Building Code Law

Appendix C: Memo to Local Jurisdictions, July 15, 2010

Appendix D: Useful Web Links

Appendix A: Acronyms & Definitions

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
DHCD	Maryland Department of Housing and Community Development
DNR	Maryland Department of Natural Resources
DOE	U.S. Department of Energy
FEMA	Federal Emergency Management Agency
HB 1353 or House Bill 1353	Omnibus Coastal Property Insurance Reform Act of 2008 (Act), Chapter 540
IBC [®]	International Building Code [®] published by the ICC [®]
ICC [®]	International Code Council [®]
I-Codes [®]	International Codes [®] published by the ICC [®]
IEBC [®]	International Existing Buildings Code [®] published by the ICC [®]
IECC [®]	International Energy Conservation Code [®] published by the ICC [®]
IRC [®]	International Residential Code [®] published by the ICC [®]
MBPS	Maryland Building Performance Standards, the statewide building code
MBPS Statute	Public Safety Article, Title 12, Subtitle 5 of the Annotated Code of Maryland
MD Codes	Maryland Codes Administration, a unit of DHCD
MDE	Maryland Department of the Environment
MDP	Maryland Department of Planning
MEA	Maryland Energy Administration
MEMA	Maryland Emergency Management Agency
NFIP	National Flood Insurance Program

Appendix B: Maryland Building Code Law

Appendix B-1: MBPS Statute

Appendix B-2: Summaries of State and Local Jurisdiction requirements

MARYLAND CODES ADMINISTRATION

Maryland Building Performance Standards

COMAR 05.02.07

Effective July 1, 2007

Updated July 16, 2007



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The Maryland Department of Housing and Community Development (DHCD) pledges to foster the letter and spirit of the law for achieving equal housing opportunity in Maryland.

Title 05 DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

Subtitle 02 BUILDING AND MATERIAL CODES

Chapter 07 Maryland Building Performance Standards

Authority: Public Safety Article §§12-501—12-508, Annotated Code of Maryland

.01 Title.

This chapter shall be known and may be cited as the Maryland Building Performance Standards Regulations.

02 Purpose and Scope.

The purpose of this chapter is to adopt the International Building Code (IBC) and International Residential Code (IRC), as may be modified by the Department, as the Maryland Building Performance Standards, which will provide reasonable protection to the public against hazards to life, health, and property, and to establish the policies and procedures associated with the operation of a data base that contains the Standards, the local amendments, and other related information.

.03 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) Agricultural Building.

(a) "Agricultural building", for purposes of Regulation .06B of this chapter only, means a structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products.

(b) "Agricultural building" does not include a place of human residence.

(2) Agritourism.

(a) "Agritourism" means tourism of agricultural farms and buildings by members of the general public for recreational, entertainment, or educational purposes for which tourists may or may not pay fees.

(b) Agritourism includes the following activities, when performed by a tourist:

(i) Viewing rural activities, farming, ranching, and wine making;

(ii) Viewing natural, historical, and cultural resources; and

(iii) Harvesting agricultural products.

(3) "Building" has the meaning and interpretation set forth in the International Building Code.

(4) "Codes Administration" means the Maryland Codes Administration, an administration within the Department.

(5) "County" means any of the 23 counties of the State and the Mayor and City Council of Baltimore.

(6) "Department" means the Department of Housing and Community Development of Maryland.

(7) "IBC" means the International Building Code, as incorporated by reference in this chapter.

(8) "ICC" means the organization known as the International Code Council.

(9) "Local amendment" means:

(a) An amendment to the Standards that has been adopted by a local jurisdiction in accordance with applicable local laws and regulations; and

(b) A copy of the amendment has been provided to the Department for inclusion in the data base within the following time period:

(i) At least 15 days before the effective date of the amendment, or

(ii) In the case of an emergency adoption of an amendment, within 5 days of the emergency amendment's adoption.

(10) "Local jurisdiction" means the county or municipality responsible for implementation and enforcement of the Maryland Building Performance Standards.

(11) "MBPS" or "Standards" means the Maryland Building Performance Standards established by these regulations.

(12) "Municipality" means a municipal corporation subject to the provisions of Article XI-E of the State Constitution.

(13) "Person" means an individual, corporation, partnership, association, or any other legal entity authorized to do business in the State.

(14) "Structure" has the meaning and interpretation set forth in the IBC.

.04 Incorporation by Reference.

A. The 2006 International Building Code, with the modifications found in §B of this regulation, is incorporated by reference under COMAR 05.02.01.02-1B(1).

B. Modifications to the 2006 International Building Code.

(1) Chapter 1. Add note to Chapter 1 of the IBC: Local jurisdictions are responsible for the implementation and enforcement of the Maryland Building Performance Standards. Refer to each local jurisdiction for local amendments to Chapter 1 of the IBC. Each local jurisdiction having authority shall establish, on or before the application date in Regulation .06 of this chapter, implementation and enforcement procedures that include:

(a) Review and acceptance of appropriate plans;

(b) Issuance of building permits;

(c) Inspection of the work authorized by the building permits; and

(d) Issuance of use and occupancy certificates.

(2) Chapter 1. Delete Exception in the Section 101.2 Scope and replace with the following:

Exception: 1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code.

Exception: 2. Existing buildings undergoing repair, alterations or additions, and change of occupancy shall comply with the Maryland Building Rehabilitation Code set forth in COMAR 05.16.

(3) Chapter 1. Delete the Section 101.2.1 Appendices and replace with the following:

101.2.1 Appendices: Provisions in Appendix C, GROUP U—Agricultural Buildings; Appendix F, Rodent Proofing; Appendix G, Flood Resistant Construction; Appendix H, Sign; and Appendix I, Patio Covers, are adopted as part of the IBC. Provisions in Appendix A, Employee Qualifications; Appendix B, Board of Appeals; Appendix D, Fire Districts; Appendix E, Supplementary Accessibility Requirements; and Appendix J, Grading, do not apply unless specifically adopted by authorities having jurisdiction.

(4) Chapter 5. Delete the first paragraph of Section 504.2 Automatic sprinkler systems, and replace with the following:

504.2 Automatic sprinkler increase. For buildings protected throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet (6096 mm), and the maximum number of stories is increased by one story. These increases are permitted in addition to an area increase in accordance with Sections 506.2 and 506.3. When the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2 for Groups R-1, R-2, and R-4, and in accordance with Section 903.3.1.3 for Group R-3, the building height limitations specified in Table 503 are increased one story and 20 feet (6096 mm) but may not exceed a height of four stories and 60 feet (18288 mm) above the grade plane. These increases are permitted in addition to the area increase.

(5) Chapter 7. Add the following new exception in Section 705.6 Vertical continuity:

6 In Groups R-2 and R-3 as applicable in Section 101.2, walls are permitted to terminate at the roof sheathing or deck in Types III, IV, and V construction, if:

6.1 The roof sheathing or deck is constructed of approved noncombustible materials or of fire-retardant-treated wood for a distance of 4 feet (1220 mm) on both sides of the wall, or

6.2 The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 for Group R-2, and 903.3.1.1, 903.3.1.2, or 903.3.1.3 for Group R-3, or

6.3 All of the following:

6.3.1 The roof is protected with 5/8 inch (15.9 mm) Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by a minimum of 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1220 mm) on both sides of the fire wall, and

6.3.2 Openings in the roof are not located within 4 feet (1220 mm) of the fire wall, and

6.3.3 The roof is covered with a minimum Class C roof covering.

(6) Chapter 9. Add note to Section 901.1 Scope Fire protection system requirements of Chapter 9 may be concurrently covered in the State Fire Prevention Code, Public Safety Article, §§6-101—6-202, Annotated Code of Maryland, and COMAR 29.06.01. The State Fire Prevention Code is enforced by the State Fire Marshal or authorized fire official.

(7) Chapter 10.

(a) Delete Exceptions 4 and 5 in Section 1009.3, and replace with the following:

Exception: 4 In occupancies in Group R-3, as applicable in Section 101.2, within dwelling units in occupancies in Group R-2, as applicable in Section 101.2, and in occupancies in Group U, which are accessory to an occupancy in Group R-3, as applicable in Section 101.2, the maximum riser height shall be 8.25 inches (210 mm) and the minimum tread depth shall be 9 inches (229 mm), the minimum winder tread depth at the walk line shall be 9 inches (229 mm), and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).

Exception: 5 See the Maryland Building Rehabilitation Code set forth in COMAR 05.16 for the replacement of existing stairways.

(b) Add new exception to Section 1012.3 as follows:

Exception: For occupancies in Group R-3 as applicable in Section 101.2 and within dwelling units in occupancies Group R-2 as applicable in Section 101.2, the grip portion of handrails shall have a circular cross section of 1.25 inches (32 mm) minimum to 2.625 inches (66.7 mm) maximum. Other shapes that provide an equivalent grasping surface are permissible. Edges shall have a minimum radius of 0.125 inch (3.2 mm).

(c) Add note to Section 1001.1 General: Means of egress requirements of Chapter 10 may be concurrently covered in the State Fire Prevention Code, Public Safety Article, §§6-101—6-602, Annotated Code of Maryland, and COMAR 29.06.01. The State Fire Prevention Code is enforced by the State Fire Marshal or authorized fire official.

(8) Chapter 11. Chapter 11 of the IBC related to accessibility requirements is hereby replaced with the Maryland Accessibility Code set forth in COMAR 05.02.02.

(9) Chapter 13. Add note to Section 1301.1 Scope: The requirements concerning energy conservation for buildings and structures are governed by Energy Conservation Building Standards, Public Utility Companies Article, §§7-401—7-408, Annotated Code of Maryland, as amended. In the event of a conflict between the Annotated Code of Maryland and the IBC, the requirements of the Public Utility Companies Article, §§7-401—7-408, Annotated Code of Maryland, prevail.

(10) Chapter 24. The requirements for safety glazing set forth in Public Safety Article, Title 12, Subtitle 4, Annotated Code of Maryland, are in addition to Chapter 24, Section 2406 of the IBC related to safety glazing. In the event of a conflict between Chapter 24 of the IBC and the Annotated Code of Maryland, the requirements of the Annotated Code of Maryland prevail.

(11) Chapter 27, ELECTRICAL. Add note to Section 2701.1 Scope: The subject matter of this chapter is not within the scope of the Maryland Building Performance Standards. For the applicable electrical requirements, refer to the local electrical code and the National Electrical Code as adopted and enforced by the State Fire Marshal, authorized fire officials, or building officials pursuant to the provisions of Public Safety Article, Title 12, Subtitle 6, Annotated Code of Maryland.

(12) Chapter 28. MECHANICAL SYSTEMS. Add note to Section 2801.1 Scope: The subject matter of this chapter is not within the scope of the Maryland Building Performance Standards. For the applicable requirements concerning the mechanical systems, refer to the local mechanical code and the mechanical code adopted pursuant to the provision of Business Regulation Article, §9A-205, Annotated Code of Maryland.

(13) Chapter 29. PLUMBING SYSTEMS. Add note to Section 2901.1 Scope: The subject matter of this chapter is not within the scope of the Maryland Building Performance Standards. For the applicable requirements concerning the plumbing systems, refer to the local plumbing code and the plumbing code adopted pursuant to the provisions of Business Occupations and Professions Article, Title 12, Annotated Code of Maryland.

(14) Chapter 30. The provisions of Chapter 30 of the IBC relate to elevators and conveying systems and are in addition to and not instead of the requirements set forth in Public Safety Article, Title 12, Subtitle 8, Annotated Code of Maryland. In the event of a conflict between the IBC and the Annotated Code of Maryland, the provisions of the Annotated Code of Maryland prevail.

(15) Chapter 34. Add the following exception to section 3401.1 Scope:

Exception: Any rehabilitation work undertaken in an existing building as defined in COMAR 05.16 shall comply with the requirements of Maryland Building Rehabilitation Code set forth in COMAR 05.16.

C. The 2006 International Residential Code for One- and Two-Family Dwellings, under the following modifications, is incorporated by reference under COMAR 05.02.01.02-1B(4):

(1) Chapter 3. Delete Section R310.1, and replace with the following:

R310.1 Emergency escape and rescue required. Every sleeping room shall have at least one openable emergency escape and rescue window or exterior door opening for emergency escape and rescue. If openings are provided as a means of escape and rescue they shall have a sill height of not more than 44 inches (1118 mm) above the adjacent interior standing surface. If a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the window or door opening from the inside. Escape and rescue window openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2.

(2) Chapter 3. Delete Section R311.5.3 Stair treads and risers, and replace with the following:

R311.5.3 Stair treads and risers.

R311.5.3.1 Riser height. The maximum riser height shall be 8 1/4 inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs may not exceed the smallest by more than 1/8 inch (9.5 mm).

R311.5.3.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the treads leading edge. The greatest tread depth within any flight of stairs may not exceed the smallest by more than 1/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line may not exceed the smallest by more than 1/8 inch (9.5 mm).

(3) Chapter 3. Delete Exception 1 of the R311.5.3.3 Profile, and replace with the following:

1. A nosing is not required if the tread depth is a minimum of 10 inches (254 mm).

(4) MECHANICAL. Chapter 12. MECHANICAL ADMINISTRATION. Add note to Section M1201.1 Scope: The subject matter of chapters 12 through 24 is not within the scope of the Maryland Building Performance Standards. For the applicable requirements concerning the mechanical systems, refer to the local mechanical code and the mechanical code adopted pursuant to the provisions of Business Regulation Article, §9A-205, Annotated Code of Maryland.

(5) PLUMBING. Chapter 25. PLUMBING ADMINISTRATION. Add note to Section P2501.1 Scope: The subject matter of chapters 25 through 32 is not within the scope of the Maryland Building Performance Standards. For the applicable requirements concerning the plumbing systems, refer to the local plumbing code and the plumbing code adopted pursuant to the provisions of Business Occupations and Professions Article, Title 12, Annotated Code of Maryland.

(6) ELECTRICAL. Chapter 33. GENERAL REQUIREMENTS. Add note to Section E3301.1 Applicability: The subject matter of chapters 33 through 42 is not within the scope of the Maryland Building Performance Standards. For the applicable electrical requirements, refer to the local electrical code and the National Electrical Code as adopted and enforced by the State Fire Marshal, authorized fire officials, or building officials pursuant to the provisions of Public Safety Article, Title 12, Subtitle 6, Annotated Code of Maryland.

.05 Maryland Building Performance Standards.

A. The IBC and IRC, as modified in Regulation .04 of this chapter, shall constitute the Maryland Building Performance Standards.

B. Local Amendments.

(1) Each local jurisdiction may by local amendment modify the provisions of the Standards to address conditions peculiar to the local jurisdiction's community.

(2) If a local jurisdiction adopts a local amendment, the Standards as amended by the local jurisdiction shall apply in that local jurisdiction.

(3) If a local amendment conflicts with the provisions of the Standards, the provisions of the local amendment shall prevail in the local jurisdiction.

(4) Local amendments shall be submitted to the Department:

(a) At least 15 days before the effective date of the amendment; or

(b) In the case of an emergency adoption of a local amendment, within 5 days after the local amendment's adoption.

.06 Application of the Standards.

A. Except as provided in §§B and C of this regulation, the Standards shall apply to all buildings and structures within the State for which a building permit application is received by a local jurisdiction.

B. A local jurisdiction may implement and enforce the Standards and any local amendments on or before the dates specified in this regulation.

C. In Calvert County, Charles County, Dorchester County, Frederick County, Harford County, Prince George's County, St. Mary's County, Somerset County, and Talbot County:

(1) The Standards do not apply to the construction, alteration, or modification of an agricultural building for which agritourism is an intended subordinate use;

(2) An existing agricultural building used for agritourism is not considered a change of occupancy that requires a building permit if the subordinate use of the building for agritourism:

(a) Complies with §C(3) of this regulation;

(b) Occupies only levels of the building on which a ground level exit is located; and

(c) Does not allow more than 50 people to occupy an individual building at any one time;

(3) An agricultural building used for agritourism shall be structurally sound and in good repair; and

(4) An agricultural building used for agritourism does not have to comply with:

(a) The requirements for bathrooms, sprinkler systems, and elevators set forth in the Standards; or

(b) Any other requirements of the Standards or other building codes as set forth in this subtitle or COMAR 05.16.

.07 Utilization of Standards.

A. Central Data Base.

(1) The Department shall establish an automated central data base which shall contain or provide a link to access the following information:

(a) The Standards;

(b) Local amendments;

(c) State Fire Prevention Code and amendments to the State Fire Prevention Code promulgated by the State Fire Prevention Commission, or the State Fire Prevention Commission's successor;

- (d) The fire codes adopted by the local jurisdictions and any amendments to them;
 - (e) The electrical code required under Public Safety Article, §12-603, Annotated Code of Maryland;
 - (f) Local amendments to the electrical code required under Public Safety Article, §12-603, Annotated Code of Maryland;
 - (g) The energy code required under Public Utility Companies Article, §7-401, Annotated Code of Maryland;
 - (h) Local code provisions that are more restrictive than the energy code required under Public Utility Companies Article, §7-401, Annotated Code of Maryland;
 - (i) The Maryland Building Rehabilitation Code; and
 - (j) Local amendments to the Maryland Building Rehabilitation Code.
- (2) The Department may compile and include in the central data base:
- (a) Any information provided by the local jurisdiction on the implementation and interpretation of the Standards by the local jurisdiction;
 - (b) Interim amendments to the IBC and IRC, including subsequent printing of the most recent edition; and
 - (c) Any other information the Department determines is relevant to the construction or rehabilitation of buildings and structures in the State.
- (3) Software.
- (a) The Department shall be responsible for the development and distribution among the local jurisdictions of software related to the operation of the central data base.
 - (b) Any software developed by or on behalf of the Department shall be owned by the Department, or the developer of the software.
-
- (c) Neither the local jurisdiction nor any other user acquires any proprietary right in any of the ICC copyrighted material or ICC trademark contained in the software.

B. Voluntary Dispute Resolution.

(1) Upon the written request of a local jurisdiction and any person aggrieved by the Standards or any local amendments to them, the Codes Administration shall conduct an informal mediation or conciliation with the local jurisdiction and any person aggrieved by the Standards or any local amendments to them.

(2) The aggrieved person and the local jurisdiction shall each submit to the Codes Administration a written statement of the dispute and include any related material either party feels is appropriate. In addition to the written statement, either party may request a meeting with the other party and the Codes Administration to discuss the dispute.

(3) Within the latter to occur of 30 days of receipt of both statements of the disputed and any related material, or 30 days after a meeting conducted in accordance with §B(2) of this regulation, the Director of the Codes Administration shall issue a decision on behalf of the Department regarding resolution of the dispute.

(4) Within 15 days of the date of the decision of the Director of the Codes Administration, either party may appeal to the Secretary of the Department or the Secretary's designee, in writing. The Secretary of the Department or the Secretary's designee shall respond to the appeal within 15 days of receipt of the appeal.

(5) Neither a decision by the Codes Administration nor the Department under §B(3) or (4) of this regulation shall constitute a contested case proceeding under the Maryland Administrative Procedure Act and is not subject to the provisions of COMAR 05.01.01.

.08 Enforcement of the Standards.

Enforcement of the Standards shall be the responsibility of the local jurisdiction in which the building or structure is located.

.09 Enforcement of State Fire Code Requirements.

There is a State Fire Code, Public Safety Article 38A, §§6-101—6-602, Annotated Code of Maryland, and COMAR 29.06.01, which requires enforcement of the Fire Code by the State Fire Marshal or authorized fire official.

Administrative History

Effective date:

Regulations .01—.09 adopted as an emergency provision effective January 13, 1995 (22:3 Md. R. 148); adopted permanently effective June 5, 1995 (22:11 Md. R. 818)

Regulation .02 amended effective October 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507)

Regulation .03B amended effective April 7, 1997 (24:7 Md. R. 552); October 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507); July 16, 2007 (34:14 Md. R. 1245)

Regulation .04 amended effective October 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507); July 1, 2007 (34:7 Md. R. 696)

Regulation .04A, B amended and C adopted effective April 7, 1997 (24:7 Md. R. 552)

Regulation .05 amended effective March 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507)

Regulation .06 amended effective April 7, 1997 (24:7 Md. R. 552); October 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507); July 16, 2007 (34:14 Md. R. 1245)

Regulation .07 amended effective April 7, 1997 (24:7 Md. R. 552); October 15, 2001 (28:5 Md. R. 548); September 20, 2004 (31:6 Md. R. 507)

Regulation .09 amended effective April 7, 1997 (24:7 Md. R. 552)

Appendix B-2: Summaries of State and Local Jurisdiction Requirements

Summary of MBPS Statute - State Requirements

- DHCD shall adopt by regulation, as the Maryland Building Performance Standards (MBPS), the International Building Code, including the International Energy Conservation Code (IECC), published by the ICC.
- DHCD shall adopt each subsequent version of the standards within 12 months after it is issued by the ICC.
- Before adopting each version of the standards, DHCD shall:
 - review the International Building Code to determine whether modifications should be incorporated in the MBPS;
 - consider changes to the International Building Code to enhance energy conservation and efficiency;
 - accept written comments;
 - consider any comments received; and
 - hold public hearings on each proposed modification.
- DHCD may not adopt, as part of the MBPS, a modification of a building code requirement that is more stringent than the requirement in the International Building Code; however, DHCD may adopt energy conservation requirements that are more stringent than the requirements in the IECC.
- DHCD may not adopt energy conservation requirements that are less stringent than the requirements in the IECC.
- The MBPS apply to each building or structure in the state for which a building permit application is received by a local jurisdiction on or after August 1, 1995.

Summary of MBPS Statute - Local Jurisdiction Requirements

- A local jurisdiction with building code authority is required to adopt the MBPS within six months of its adoption by DHCD.
- A local jurisdiction may amend
- While the State can not adopt any requirements that are stricter than the IBC and the IRC, local jurisdictions can:
 - adopt more stringent codes.
 - amend out any parts of the IBC and IRC that they do not want to enforce.
- Local authorities are required to let the State know what codes they amend.¹
- Amendments to the MBPS are permitted if the local amendments do not:
 - prohibit the minimum implementation and enforcement activities set forth in § 12-505 of the Public Safety code; or
 - weaken energy conservation and efficiency provisions contained in the MBPS.
- If a local jurisdiction adopts a local amendment to the MBPS, the MBPS as amended by the local jurisdiction apply in the local jurisdiction. In addition,
 - If a local amendment conflicts with the MBPS, the local amendment prevails in that jurisdiction.
 - A local jurisdiction that adopts a local amendment to the Standards shall ensure that the local amendment is adopted in accordance with applicable local law.
 - A local jurisdiction that adopts a local amendment to the MBPS shall provide a copy of the local amendment to DHCD at least 15 days before the effective date of the amendment or within 5 days after the adoption of an emergency local amendment.

¹ See the Annotated Code of Maryland, Public Safety, Title §12-504 Local amendments to Standards.

MEMORANDUM

DATE: July 15, 2010

TO: Industrialized/Modular Building Manufacturers
Maryland Approved Testing Facilities
All Local Building Officials

FROM: Ujjval Dave, P. E., Manager, Design Standards and Review
Maryland Codes Administration

RE: Industrialized/Modular Buildings - Minimum Design Loads.
2009 International Building Code (IBC) and 2009 International
Residential Code (IRC) - Earthquake, Snow, Wind and Flood Loads.

Please be advised that this memorandum supersedes Maryland Codes Administration memorandum dated December 1, 2009 regarding the subject as referenced above and shall be effective as of August 15, 2010.

Maryland Industrialized Buildings and Mobile Homes Regulation (COMAR §05.02.04.09) specifies that the industrialized buildings located in Maryland are required to be designed for safe design loads of the localities as determined by the local enforcement agencies. The Department has reviewed the applicable International Building and Residential Codes (IBC and IRC) 2009 Editions (**effective January 1, 2010**) concerning design load requirements. Unless other higher design loads are determined by the local enforcement agencies, the following applies:

(A) Earthquake Loads

For uniformity, the structures shall be designed to resist earthquake loads considering the following minimum value.

Seismic Design CategoryC
(Ref: IBC § 1613, IRC §R301.2.2.1)

Notes:

- (1) The above Seismic design Category C, is based on site class D (Ref: IBC Table 1613.5.2) and Occupancy Categories I, II and III (Ref: IBC § 1604.5). When the building is to be located in site class E or F and/or building is assigned to Occupancy Category IV, Seismic Design Categories D, E, or F will be applicable.

- (2) Detached one-and two-family dwellings located in Seismic Design Category C are exempt from the seismic requirements (Ref: IRC 2009 §R301.2.2)
- (3) The seismic-force-resisting system of wood frame buildings that conform to the provisions of IBC §2308 are not required to be analyzed as specified in IBC §1613.1 (Ref: IBC § 1613.1 Exception 2).

(B) Snow Loads

The ground snow loads (**P_g**) to be used in determining the design snow loads for roofs are given in IBC, Figure 1608.2 and IRC, Figure R301.2 (5). However, the design roof load shall not be less than that determined by IBC section 1607.

For uniformity, minimum ground snow loads (**P_g**) are to be used for various localities within Maryland as follows:

Local enforcement agencies	Ground Snow loads (P_g)
Garrett and Allegany	55 psf
Washington, Frederick and Carroll	40 psf
Baltimore, Cecil, Harford, Howard, and Prince George's	35 psf
Montgomery	30 psf
All other counties	25 psf

Note: The design snow loads, for different types of roofs or conditions, shall be determined in accordance with IBC (Ref: § 1608.1), IRC (Ref: § R301.2.3) and by using the above corresponding values of ground snow loads (**P_g**).

(C) Wind Loads

For uniformity, the structures shall be designed to resist wind loads considering the following minimum values:

Basic Wind speed V_{3s-3} second gust (mph) (Ref: IBC § 1609.3, IRC § R301.2.1).

- Somerset, Wicomico, and Worcester counties.....120 mph
- Caroline, Dorchester, Talbot, and Saint Mary's counties.....100 mph
- All other counties 90 mph

(D) Flood Loads

The design and construction of buildings located in flood hazard areas as established by the local enforcement agencies, including flood hazard areas subject to high velocity wave action, shall be designed and constructed in accordance with Chapter 5 of ASCE 7, and with ASCE 24. (Ref: IBC, § 1612.3& 1612.4, IRC § R322).

Appendix D: Useful Web Links

<http://www.dhcd.maryland.gov/Website/Default.aspx> - DHCD

www.mdcodes.org – Maryland Codes Administration

<http://www.iccsafe.org/STORE> - ICC Code Book Purchase

For Referenced ICC Publications:

ICC Code Book Purchase Mailing Address:

International Code Council, Publications, 4051 West Flossmoor Road,
Country Club Hills, IL 60478-5795.

Phone: 1-888-ICC SAFE (422-7233)

<http://www.mde.state.md.us/> - Maryland Department of Environment

<http://www.dnr.state.md.us/> - Maryland Department of Natural Resources

<http://www.mdp.state.md.us/> - Maryland Department of Planning

<http://www.dllr.maryland.gov/> - Maryland department of Labor Licensing and Regulation

<http://www.firemarshal.state.md.us/> - Maryland State Fire Marshall

<http://www.fema.gov/business/nfip/> - National Flood Insurance Program

<http://www.fema.gov/> - FEMA

<http://www.mema.state.md.us/MEMA/index.jsp> - MEMA

<http://www.tdi.state.tx.us/webinfo/08qdisaster.html> - Texas Department of Insurance