



KENT COUNTY SUPPLEMENT

TO THE

INTERNATIONAL BUILDING CODE/2012

&

INTERNATIONAL RESIDENTIAL CODE/2012

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Ordinance 14-05



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INTERNATIONAL BUILDING CODE/2012

PART 1 – SCOPE AND ADMINISTRATION

Chapter 1 SCOPE AND ADMINISTRATION

Section 101 - General

[A] **101.1 Title.** These regulations shall be known as the Building Code of Kent County, hereinafter referred to as “this code.”

[A] **101.2 Scope.** The provisions of this code shall apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

[A] **101.2.1 Appendices.** Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance.

[A] **101.3 Purpose.** The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment, and to provide safety to fire fighters and emergency responders during emergency operations.

[A] **101.4 Referenced codes.** The other codes listed in Sections 101.4.1 through 101.4.6 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer’s instructions shall apply.

[A] **101.4.1 Gas.** The provisions of the International Fuel Gas Code shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances, and the installation and operation of residential and commercial gas appliances and related accessories.

[A] **101.4.2 Mechanical.** The provisions of the International Mechanical Code shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

[A] **101.4.3 Plumbing.** The provisions of the International Plumbing Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the International Private Sewage Disposal Code shall apply to private sewage disposal systems. The International Plumbing Code is governed by the State of Delaware and may be subject to a different edition of the code.

[A] **101.4.4 Property maintenance.** The provisions of the International Property Maintenance Code shall apply to existing structures and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.

[A] **101.4.5 Fire prevention.** The provisions of the International Fire Code shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression, automatic sprinkler systems and alarm systems or fire hazards in the structure or on the premises from occupancy or operation. The International Fire Code is governed by the State of Delaware and may be subject to a different edition of the code.

[A] **101.4.6 Energy.** The provisions of the International Energy Conservation Code shall apply to all matters governing the design and construction of buildings for energy efficiency covered in this code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public. The International Energy Conservation code is governed by the State of Delaware and may be subject to a different edition of the code.

Section 102 - Applicability

[A] 102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[A] 102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

[A] 102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

[A] 102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

[A] 102.4.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

[A] 102.4.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code or the International Codes listed in Section 101.4, the provisions of this code or the International Codes listed in Section 101.4, as applicable, shall take precedence over the provisions in the referenced code or standard.

[A] 102.5 Partial invalidity. In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

[A] 102.6 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

PART 2 – ADMINISTRATION AND ENFORCEMENT

Section 103 - Division of Inspections & Enforcement

[A] 103.1 Creation of enforcement agency. Division of Inspections & Enforcement is hereby created and the official in charge thereof shall be known as the building official.

[A] 103.2 Appointment. The Director of Planning Services is appointed by Levy Court as the building official.

[A] 103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to hire technical staff, inspectors, plans examiners and other employees in accordance with the adopted budget and the prescribed procedures of Kent County. Such employees shall report to and have powers as delegated by the building official. For the maintenance of existing properties, see the International Property Maintenance Code.

Section 104 - Duties and Powers of Building Official

[A] 104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection, alteration, demolition, and moving of buildings and structures; inspect the premises for which such permits have been issued; and enforce compliance with the provisions of this code.

[A] 104.3 Notices and orders. The building official shall issue all necessary notices or orders to ensure compliance with this code.

[A] 104.4 Inspections. The building official shall make all of the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and

be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

[A] 104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition that is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

[A] 104.7 Department records. The building official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

[A] 104.8 Liability. The building official, member of the Board of Appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Used materials and equipment. The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment and devices shall not be reused unless approved by the building official.

[A] 104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative, provided the building official shall first find that special individual reason makes the strict letter of this code impractical; the modification is in compliance with the intent and purpose of this code; and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the Division of Inspections & Enforcement.

[A] 104.10.1 Flood hazard areas. Kent County Board of Adjustment shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 or Table R301.2(1) unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not

intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Compliance with the specific performance-based provisions of the International Codes in lieu of specific requirements of this code shall also be permitted as an alternative.

[A] 104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

[A] 104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

Section 105 - Permits

[A] 105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

[A] 105.1.1 Annual permit. In lieu of an individual permit for each alteration to an already approved electrical, gas, mechanical or plumbing installation, the building official is authorized to issue an annual permit upon application therefore to any person, firm or corporation regularly employing one or more qualified trade persons in the building, structure or on the premises owned or operated by the applicant for the permit.

[A] 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such records at all times or such records shall be filed with the building official as designated.

[A] 105.1.3 Delaware Department of Transportation approval. The building official may require an entrance/exit permit from the Delaware Department of Transportation upon application for a building permit for all non-residential and residential buildings on State maintained roads.

[A] 105.1.4 Public sewage disposal. The plot plan shall include the location of public sewer utilities and points at connections are to be made and accompanied by a sewer lateral permit, issued by the sewer utility, when public sewer is not available.

[A] 105.1.5 Permits for historic structures. Permits for historic structures shall comply with the regulations set forth in the Kent County Zoning Ordinance.

[A] 105.1.6 Other permit approvals. Before a building permit is issued, ADDITIONAL AGENCY approvals may be required. Such Agency approvals include but are not limited to; Delaware State Fire Marshall, Kent Conservation District, Delaware Division of Public Health, Delaware Department of Natural Resources and Environmental Control, and a Delaware recognized electrical inspection agency.]

[A] 105.1.7 Energy code compliance. An energy code compliance certificate shall be submitted with each single family dwelling permit application, or meet the prescriptive requirements of Section 402 of the International Energy Conservation Code currently adopted by the State of Delaware.

[A] 105.2 Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area is not greater than 100 square feet (9.3 m²).

2. Fences 4 feet (1219 mm) high and under.

Exceptions:

- a. Fences required for pools.
 - b. Fences required by the State of Delaware for home-based daycares.
 - c. Fences required by Kent County Planning Services as part of an approved subdivision application or land development application.
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
 4. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18,925 L) and the ratio of height to diameter or width is not greater than 2:1.
 5. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any basement or story below and are not part of an accessible route.
 6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
 7. Temporary motion picture, television and theater stage sets and scenery.
 8. Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep high, are not greater than 5,000 gallons (18,925 L) and are installed entirely above ground.
 9. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
 10. Swings and other playground equipment accessory to detached one- and two-family dwellings.
 11. Window awnings in Group R-3 and U occupancies, supported by an exterior wall that do not project more than 54 inches (1,372 mm) from the exterior wall and do not require additional support.
 12. Non-fixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1,753 mm) in height.
 13. Replacement of any roof sheathing less than 25% of the roof area.

Electrical:

Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

Radio and television transmitting stations: The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.

Temporary testing systems: A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliances.
2. Portable ventilation equipment.

3. Portable cooling units.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 Pounds (5 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.

Plumbing:

1. The stopping of leaks in drain, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

[A] 105.2.1 Emergency repairs. Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.

[A] 105.2.2 Repairs. Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

[A] 105.2.3 Public service agencies. A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.

[A] 105.2.4 Agricultural and farm buildings. All farm buildings, except dwellings used exclusively for farming or agriculture of any nature as referenced in 9 Delaware Code, Chapter 83, §8330, § 8331, §8332, are exempt from this code, except that a plot plan shall be provided showing the location of the building to be constructed and Agricultural Building Use Permit obtained from the Division of Inspections & Enforcement at the cost as approved by the Kent County Levy Court.

[A] 105.3 Application for permit. To obtain a permit, the applicant shall first file an application therefore in writing on a form furnished by the Division of Inspections & Enforcement for that purpose. Such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section 107.
5. State the valuation of the proposed work.
6. Be signed by owner of record or contractor (agent) for the project; otherwise a written approval from the owner of record will be supplied.
7. Give such other data and information as required by the building official.

[A] 105.3.1 Action on application. The building official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform

to the requirements of pertinent laws, the building official may reject such application in writing, stating the reasons therefore, or approve such application with conditions. If the building official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the building official shall issue a permit therefore as soon as practicable.

[A] 105.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.4 Validity of permit. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this jurisdiction.

[A] 105.5 Expiration. Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.5.1 Time limitation of permit. Provided work has commenced, permits shall be valid for one (1) year from the date of issuance.

Exceptions: Manufactured home placement and replacement, pools, and demolition permits are subject to separate time limitations.

[A] 105.5.2 Manufactured home placement and replacement. Placement or replacement of a manufactured home must complete all required inspections including the final inspection, meeting the requirements set forth in the State of Delaware Manufactured Home Installation Code within ninety (90) days of issuance of the placement permit with an automatic inspection after thirty (30) days.

[A] 105.5.3 Pool permits. Pool permits shall be valid for a period of ninety (90) days from the date of issuance. An automatic inspection will be performed thirty (30) days from the date of issuance.

[A] 105.5.4 Demolition permits. A demolition permit shall be valid for one hundred eighty (180) days from the date of issuance. An automatic inspection will be performed sixty (60) days from the date of issuance.

[A] 105.5.5 Completion of construction. All construction for which a building permit is required must be completed and pass final inspection within two (2) years after issuance of a building permit. After the first twelve (12) months, a permit may be renewed for one additional twelve (12) month period for a renewal fee as reflected in the Kent County Code Fee Ordinance 04-05, §6.3. On single family dwellings, an inspection will be conducted by the Division prior to renewal.

Exceptions: Manufactured home placement and replacement, pools, and demolition permits are subject to separate completion times and may obtain one renewal for the same time frame as the original permit.

[A] 105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code and all other applicable County codes wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code and all other applicable County codes.

[A] 105.6.1 Stop work orders. For every [A] permit issued in error or in violation of the provision of this code or other ordinance(s) of Kent County or without proper authority, the building official shall immediately issue a stop work order pursuant to Section 115 and 116, setting forth the nature of the violation, setting forth the conditions under which work will be permitted to resume and/or prescribing the appropriate acts, procedures or methods by which the error of violation may be appealed. Performing work after the expiration of a building permit is the same as building without a permit, and is therefore subject to the aforementioned penalties.

[A] 105.7 Placement of permit. The building permit or copy shall be kept on the site of the work and posted in a prominent location visible from the street until the completion of the project.

[A] 105.8 Responsibility. It shall be the duty of every person who performs work for the installation or repair of building, structure, electrical, gas, mechanical or plumbing systems, for which this code is applicable, to comply with this code.

Section 106 - Floor and Roof Design Loads

[A] 106.1 Live loads posted. Where the live loads for which each floor or portion thereof of a commercial or industrial building is or has been designed to exceed 50 psf (2.40 kN/ m²), such design live loads shall be conspicuously posted by the owner in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

[A] 106.2 Issuance of certificate of occupancy. A certificate of occupancy required by Section 111 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

106.2.1 Acceptable datum. The Department of Planning Services shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source as criteria for requiring that new construction, substantial improvements, or other development in Zone A comply with the provisions of this chapter.

[A] 106.3 Restrictions on loading. It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a load greater than is permitted by this code.

Section 107 - Submittal Documents

[A] 107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical reports and other data shall be submitted in two or more sets with each permit application. The construction documents shall be prepared by a registered design professional currently licensed in the State of Delaware with either the Delaware Association of Professional Engineers as a Professional Engineer or with the State of Delaware Division of Professional Regulations as a Registered Architect. The construction documents shall include the name and address of the registered design professional and shall be signed, sealed and dated by the registered design professional in accordance with the registration laws of the State of Delaware. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception:

1. Single and two-family dwellings, any additions, alterations and renovations thereto, shed and garages incidental to such dwellings.
2. Commercial accessory structures, two (2) units maximum per property (square footage not to exceed 300 square feet each), shall be used exclusively for low hazard storage purposes. Structures shall be leveled and secured with tie downs or equivalent of manufactured home fastening devices; one (1) anchor installed at each corner. Structures twenty (20) feet or more in length shall have two (2) additional anchors installed; one on each side mid-span. All lumber and wood siding is to be pressure treated from grade to eight (8) inches above finished grade.
3. Farm structures used exclusively for farm use.
4. Home occupations that have been approved by the Department of Planning Services for their stated use.
5. The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

[A] 107.2 Construction documents. Construction documents shall be in accordance with Sections 107.2.1 through 107.2.5.

[A] 107.2.1 Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.

[A] 107.2.2 Fire protection system shop drawings. Shop drawings for the fire protection system(s) shall be submitted to indicate conformance to this code and the construction documents and shall be approved prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

[A] 107.2.3 Means of egress. The construction documents shall show in sufficient detail the location, construction, size and character of all portions of the means of egress including the path of the exit discharge to the public way in compliance with

the provisions of this code. Except for occupancies in Groups R-2, R-3, and I-1, the construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.

[A] 107.2.4 Exterior wall envelope. Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane and details around openings. The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system that was tested, where applicable, as well as the test procedure used.

[A] 107.2.5 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site; distances from lot lines; the established street grades and the proposed finished grades; and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey map. In the case of demolition, the site plan shall show construction to be demolished, and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair, or when otherwise warranted.

[A] 107.2.5.1 Design flood elevations. Where design flood elevations are not specified, they shall be established in accordance with Section 1612.3.1 or R322.1.4.1.

[A] 107.2.5.2 Additional requirements. For zoning, a site plan shall accompany the permit application.

[A] 107.2.6 Manufacturer's installation instructions. Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.

[A] 107.2.6.1 Addition attachments. Any addition to manufactured homes, including decks, other than ones that are self-supporting, is required to be designed and sealed by a design professional licensed in the State of Delaware.

[A] 107.2.7 Information for construction in flood hazard areas. For buildings and structures located wholly or partially in flood hazard areas as established by Table R301.2(1), construction documents shall include:

1. Delineation of flood hazard areas, floodway boundaries and flood zones and the design flood elevation, as appropriate;
2. The elevation of the proposed lowest floor, including basement; in areas of shallow flooding (AO zones), the height of the proposed lowest floor, including basement, above the highest adjacent grade; and
3. The elevation of the bottom of the lowest horizontal structural member in coastal high hazard areas (V Zone); and
4. If design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), the building official and the applicant shall obtain and reasonably utilize the best available design flood elevation and floodway data available from other sources.

[A] 107.3 Examination of documents. The building official shall examine, or cause to be examined, the accompanying submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

[A] 107.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved, in writing or by stamp, as "Reviewed for Code Compliance." One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or a duly authorized representative.

[A] 107.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 107.3.3 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent

requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

[A] 107.3.4 Design professional in responsible charge. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties. The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

[A] 107.3.4.1 Deferred submittals. For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.

[A] 107.4 Amended construction documents. Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

[A] 107.5 Retention of construction documents. One set of approved construction documents shall be retained by the building official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

Section 108 - Temporary Structures and Uses

[A] 108.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. With regard to and pursuant to a variance granted by the Board of Adjustment or under the provisions of the Kent County Zoning Ordinance §205-19, the building official shall issue a permit for temporary uses. Such permits shall be limited as to the time of service granted by the variance or the time limits specified in the Kent County Code, §205-19.

[A] 108.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

[A] 108.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified by any of the approved State Electrical Inspection Agencies.

[A] 108.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

Section 109 - Fees

[A] 109.1 Payment of fees. A permit shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

[A] 109.2 Schedule of permit fees. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority. See Kent County Code § 128-6.

[A] 109.3 Building permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical and/or other permanent systems, as well as plumbing equipment. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.

[A] 109.3.1 Evaluation. When deemed necessary, Marshall & Swift Valuation Service will be used to cost out the project.

[A] 109.4 Work commencing before permit issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a fee established by the building official that shall be in addition to the required permit fees.

[A] 109.4.1 After-the-Fact permitting. After-the-Fact permitting for structures constructed prior to the issuance of a Kent County building permit shall be double the base building permit fee.

[A] 109.5 Related fees. The payment of the fee for the construction, alteration, removal or demolition for work done in connection to, or concurrently with, the work authorized by a building permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

[A] 109.6 Refunds. See Kent County Policy 22-10 B, 1-3.

Section 110 - Inspections

[A] 110.1 General. Construction or work for which a permit is required shall be subject to inspection by the building official, and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] 110.2 Preliminary inspection. Before issuing a permit, the building official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

[A] 110.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.10.

[A] 110.3.1 Footing and foundation inspection. Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94. In this case, the concrete need not be on the job.

[A] 110.3.2 Concrete slab and under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

[A] 110.3.3 Lowest floor elevation. In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification required in Section 1612.5 shall be submitted to the building official.

[A] 110.3.4 Frame inspection. Framing inspections shall be made after the roof deck or sheathing and all framing, fire-blocking and bracing are in place; pipes, chimneys and vents to be concealed are complete; and the rough electrical, plumbing, heating wires, pipes and ducts are approved.

[A] 110.3.5 Fire- and smoke-resistant penetrations. Protection of joints and penetrations in fire-resistance rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.

[A] 110.3.6 Energy efficiency inspections. Inspections shall be made to determine compliance with the current State adopted International Energy Conservation Code or ANSI/ASHRAE/IES Standard 90.1, and shall include, but not be limited to, inspections for: envelope insulation R- and U-values, fenestration U-value, duct system R-value, and HVAC and water-heating equipment efficiency. An Energy Compliance sticker completed by the applicant or agent shall be completed and attached in the electrical panel prior to the issuance of the certificate of occupancy.

[A] 110.3.7 Other inspections. In addition to the inspections specified in Sections 110.3.1 through 110.3.7, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the Division of Inspections & Enforcement.

[A] 110.3.9 Special inspections. For special inspections, see Chapter 17.

[A] 110.3.10 Fire-resistance-rated construction inspection. Where fire-resistance-rated construction is required between dwelling units or due to location on property, the building official shall require an inspection of such construction after all lathing and/or wallboard is in place, but before any plaster is applied, or before wallboard joints and fasteners are taped and finished.

Exception: Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

[A] 110.3.11 Waterproofing inspection. A waterproofing inspection will be required for all dwellings with basements. The inspection will be required before the basement is backfilled.

[A] 110.3.12 Final inspection. The final inspection shall be made after all work required by the building permit is completed and all other applicable agency approvals have been acquired.

[A] 110.3.12.1 Flood hazard documentation. If located in a flood hazard area, documentation of the elevation of the lowest floor as required in Section 1612.5 shall be submitted to the building official prior to the final inspection.

[A] 110.4 Inspection agencies. The building official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

[A] 110.5 Inspection requests. It shall be the duty of the holder of the building permit or their duly authorized agent to notify the building official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

[A] 110.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.

Section 111 - Certificate of Occupancy

[A] 111.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made, until the building official has issued a certificate of occupancy therefore as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code, or of other ordinances of the jurisdiction.

Exception: Certificates of occupancy are not required for work exempt from permits under Section 105.2.

[A] 111.2 Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the Division of Inspections & Enforcement, the building official shall issue a certificate of occupancy that contains the following:

1. The building permit number.
2. The address of the structure.
3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the building official.
7. The edition of the code under which the permit was issued.

8. The use and occupancy, in accordance with the provisions of Chapter 3.
9. The type of construction as defined in Chapter 6.
10. The design occupant load.
11. If an automatic sprinkler system is provided, whether the sprinkler system is required.
12. Any special stipulations and conditions of the building permit.

[A] 111.3 Temporary occupancy. The building official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The building official shall issue the temporary certificate of occupancy in thirty (30) day increments. A separate fee applies for each thirty (30) days.

[A] 111.4 Revocation. The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

Section 112 - Service Utilities

[A] 112.1 Connection of service utilities. No person shall make connections from a utility source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required.

[A] 112.2 Temporary connection. The building official shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel or power.

[A] 112.3 Authority to disconnect service utilities. The building official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section 101.4 in case of emergency where necessary to eliminate an immediate hazard to life or property, or when such utility connection has been made without the approval required by Section 112.1 or 112.2. The building official shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Section 113 - Board of Appeals

[A] 113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a Board of Appeals. The Board of Appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The Board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official.

[A] 113.1.1 Application for appeals. Any application for an appeal shall be in writing and shall be received by the building official within ten (10) days of receipt of the written decision of the building official.

[A] 113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The Board shall have no authority to waive requirements of this code.

[A] 113.3 Qualifications. The Board of Appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.

[A] 113.3.1 Appointment. During the term of the appointment of a member of the Kent County Board of Appeals properly appointed, any change of residency from within that Levy Court district to a different Levy Court district will have no effect on the validity of the appointment, and the person so appointed may continue to serve until they resign or the appointing Levy Court Commissioner or their successor appoints a new person for that district. Failure to reside in Kent County, DE, shall be automatic resignation.

[A] 113.4 Administration. The building official shall take immediate action in accordance with the decision of the Board.

Section 114 - Variances

[A] 114.1 Criteria for issuance of a variance in areas prone to flooding. A variance shall be issued by the Kent County Board of Adjustment only upon:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards in Section 1612 or R322 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.
6. The County shall maintain record all decisions, including justification for their issuance, and report such decisions issued in its annual report submitted to the Federal Insurance Administration.

Section 115 - Violations

[A] 115.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 115.2 Notice of violation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] 115.3 Prosecution of violation. If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] 115.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof, or who erects, constructs, places, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be charged with a violation of this section and shall be fined according to the following schedule:

- \$100.00 for any first offense;
- \$250.00 for any second offense;
- \$500.00 for any third offense;
- and no less than \$1,000.00 nor more than \$10,000.00 for any fourth and subsequent offense, or by imprisonment not exceeding ten (10) days, or both such fine and imprisonment.

Repeat offenders shall not receive warnings and shall instead be subject to progressively increasing fines according to the foregoing schedule. Each day that any violation continues shall constitute a separate offense. The \$100.00 minimum fine is mandatory and not subject to suspension. If there are any health and safety risks, then the appeal of the Kent County Community Board of Appeals shall not operate as a stay of any administrative or enforcement action taken by the Division of Inspections & Enforcement to correct these risks, unless together the Chairman of said Board and the building official jointly agree with the stay. Said agreement will be in writing with the copies presented to said Board.

Section 116 - Stop Work Order

[A] 116.1 Authority. Whenever the building official finds any work regulated by this code being performed in a manner either

contrary to the provisions of this code or any other provisions of the Kent County Code, including §205-415.1, or in a dangerous or unsafe condition, the building official is authorized to issue a stop work order.

[A] 116.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

[A] 116.3 Unlawful continuance. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be charged with a violation of this section and shall be fined according to the following schedule:

- \$100.00 for any first offense;
- \$250.00 for any second offense;
- \$500 for any third offense;
- and no less than \$1,000.00 nor more than \$10,000.00 for any fourth and subsequent offense.

Repeat offenders shall not receive warnings and instead shall be subject to progressively increasing fines according to the foregoing schedule. Each day that any violation continues shall constitute a separate offense.

Section 117 - Unsafe Structures and Equipment

[A] 117.1 Conditions. Structures or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

[A] 117.2 Record. The building official shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

[A] 117.3 Notice. If an unsafe condition is found, the building official shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the building official acceptance or rejection of the terms of the order.

[A] 117.4 Method of service. Such notice shall be deemed properly served if a copy thereof is (a) delivered to the owner personally; (b) sent by certified or registered mail addressed to the owner at the last known address with the return receipt requested; or (c) delivered in any other manner as prescribed by local law. If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.

[A] 117.5 Restoration. The structure or equipment determined to be unsafe by the building official is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.2.2, Chapter 34 of the IBC, and Appendix J of the IRC.

Section 118 - Contractor Licensing

[A] 118.1 Contractor's license. All contractors shall possess a current business license with the State of Delaware.

[A] 118.2 Manufactured home licensing. See Delaware Code, Title 24, Professions and Occupations; Chapter 44, Manufactured Home Installation; Subchapter III Manufactured Home Installation Code.

Section 119 - Toilet Facilities for Workers

[A] 119.1 General. Toilet facilities shall be provided for construction workers and such facilities shall be maintained in a sanitary condition. Construction worker toilet facilities of the non-sewer type shall conform to ANSI Z4.3.

[A] 119.2 Employee toilet requirements for commercial projects. All worksites shall be supplied with employee toilets. The required number of toilets shall be:

- 1 commode for 20 or fewer employees; or
- 1 commode and 1 urinal, per 40 workers, for 20 or more employees.

[A] 119.3 Employee toilet requirements for residential developments. Toilet facilities shall be provided for construction workers in residential developments and shall be located a minimum of every one thousand (1,000) curb feet.

Section 120 - Emergency Communication Systems

[A] 120.1 Emergency communication systems. All newly constructed buildings in excess of 25,000 square feet of gross floor area, or renovations to existing structures where such renovations substantially affect in excess of 25,000 square feet of gross floor area, shall be designed, constructed and/or renovated so that emergency public safety personnel may send and receive emergency communications from within all areas of those buildings; or alternatively, all such buildings shall be equipped with emergency communications equipment so that emergency public safety personnel may send and receive emergency communications from all areas within the building.

[A] 120.2 Certificate of occupancy. Prior to the issuance of a certificate of occupancy, a certification from the State of Delaware, Department of Safety and Homeland Security, as noted in Chapter 49, Title 9 of the Delaware Code, §4927 is required.

Section 121 - Site Address

[A] 121.1 Address numbers. Commercial Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 8 inches (203.2 mm) high with a minimum stroke width of 3/4 inch (69.7 mm). Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

The remainder of the chapter is adopted without changes or additions.

Chapter 2 DEFINITIONS

DESIGN PROFESSIONAL: An architect or engineer, or both, duly licensed for professional practice, who may be employed by an owner for the purpose of designing a project.

The remainder of the Chapter is adopted without changes or additions.

Chapter 3 USE AND OCCUPANCY CLASSIFICATIONS

305.2 Group E, day care facilities. This group includes buildings and structures or portions thereof occupied by more than five children older than 2½ years of age who receive educational or personal care services, or supervision for fewer than 24 hours per day.

305.2.1 Within places of religious worship. Rooms and spaces within places of religious worship providing such day care during religious functions shall be classified as part of the primary occupancy.

305.2.2 Five or fewer children. A facility having five or fewer children receiving such day care shall be classified as part of the primary occupancy.

305.2.3 Five or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having five or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code/2012 and this code.

Exception: Those buildings approved by the Department of Planning Services as a Family Child Care Home, caring for nine children or less, shall be classified as a Group R-3 or shall comply with the International Residential Code/2012. Compliance with any applicable provisions of Title III of the Americans with Disabilities Act shall be the responsibility of the applicant.

308.5 Group I-4, day care facilities. This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians relatives by blood, marriage or adoption and in a place other than the home of the recipient of care.

Section 312 - Utility and Miscellaneous Group U

312.1 General. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

- Aircraft hangars, accessory to a one- or two-family residence (see Section 412.5)
- Barns
- Carpports
- Fences more than 6 feet (1829 mm) in height
- Grain silos, accessory to a residential occupancy
- Greenhouses
- Livestock shelters
- Private garages
- Retaining walls
- Sheds
- Stables
- Tanks
- Towers

The remainder of the chapter is adopted without changes or additions.

Chapter 4
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

Section 425 - Home Occupations

425.1 General. Home based occupations as defined by Chapter 205, Zoning, shall be classified as Group R-3 occupancy and shall comply with the residential requirements of this code. Compliance with any applicable provisions of Title III of the Americans with Disabilities Act shall be the responsibility of the applicant.

Exception: The building official or designee may determine that specific home occupations including but not limited to auto repair shops, cabinet shops, and welding shops, may be required to comply with other provisions of this code pertaining to life and safety (e.g. building structural loads, ventilation, etc.).

The remainder of the chapter adopted without changes or additions.

Chapter 5
GENERAL BUILDING HEIGHTS AND AREAS

Adopted without changes or additions.

Chapter 6
TYPES OF CONSTRUCTION

Adopted without changes or additions.

Chapter 7
FIRE-RESISTANCE-RATED CONSTRUCTION

Adopted without changes or additions.

Chapter 8
INTERIOR FINISHES

Adopted without changes or additions.

Chapter 9
FIRE PROTECTION SYSTEMS

Adopted without changes or additions.

**Chapter 10
MEANS OF EGRESS**

Adopted without changes or additions.

**Chapter 11
ACCESSIBILITY**

Adopted without changes or additions.

**Chapter 12
INTERIOR ENVIRONMENT**

Adopted without changes or additions.

**Chapter 13
ENERGY EFFICIENCY**

Deleted in its entirety. Refer to the current State adopted International Energy Conservation Code or ANSI/ASHRAE/IES Standard 90.1.

**Chapter 14
EXTERIOR WALLS**

Adopted without changes or additions.

**Chapter 15
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES**

Adopted without changes or additions.

**Chapter 16
STRUCTURAL DESIGN**

1612.3 Establishment of flood hazard areas. To establish flood hazard areas, the applicable governing authority shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency (FEMA) in an engineering report entitled "The Flood Insurance Study for Kent County, Delaware" date most recently enacted, as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM), along with any related supporting data pertaining to any revisions. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

The remainder of the chapter is adopted without changes or additions.

**Chapter 17
STRUCTURAL TESTS AND SPECIAL INSPECTIONS**

Adopted without changes or additions.

**Chapter 18
SOILS AND FOUNDATIONS**

Adopted without changes or additions.

**Chapter 19
CONCRETE**

Adopted without changes or additions.

**Chapter 20
ALUMINUM**

Adopted without changes or additions.

**Chapter 21
MASONRY**

Adopted without changes or additions.

**Chapter 22
STEEL**

Adopted without changes or additions.

**Chapter 23
WOOD**

Adopted without changes or additions.

**Chapter 24
GLASS AND GLAZING**

Adopted without changes or additions.

**Chapter 25
GYPSUM BOARD AND PLASTER**

Adopted without changes or additions.

**Chapter 26
PLASTIC**

Adopted without changes or additions.

**Chapter 27
ELECTRICAL**

Deleted in its entirety. Refer to current adopted State Electrical Code.

**Chapter 28
MECHANICAL SYSTEMS**

Adopted without changes or additions.

**Chapter 29
PLUMBING SYSTEMS**

Deleted in its entirety. Refer to current adopted State Plumbing Code.

**Chapter 30
ELEVATORS AND CONVEYING SYSTEMS**

Adopted without changes or additions.

**Chapter 31
SPECIAL CONSTRUCTION**

Adopted without changes or additions.

**Chapter 32
ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY**

Adopted without changes or additions.

Chapter 33
SAFEGUARDS DURING CONSTRUCTION

Adopted without changes or additions.

Chapter 34
EXISTING STRUCTURES

Adopted without changes or additions.

Chapter 35
REFERENCED STANDARDS

Adopted without changes or additions.

Appendix E
SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS

Adopted without changes or additions.

Appendix F
RODENTPROOFING

Adopted without changes or additions.

Appendix H
SIGNS

Section H101 - General

H101.2 Signs exempt from permits. The following signs are exempt from the requirements to obtain a permit before erection:

1. Painted non-illuminated signs.
2. Temporary signs announcing the sale or rent of property.
3. Signs erected by transportation authorities.
4. Projecting signs not exceeding 2.5 square feet (0.23m²).
5. The changing of moveable parts of an approved sign that is designed for such changes, or the repainting or repositioning of display matter shall not be deemed an alteration.
6. Public and quasi-public signs.
7. Signs forming an integral part of fuel dispensing pumps, vending machines or service appliances.
8. Directional signs measuring less than six (6) square feet in area that only guide or direct traffic on the property that it is placed. See also Kent County Code Chapter 205, Zoning.

The remainder of this appendix is adopted without changes or additions.

INTERNATIONAL RESIDENTIAL CODE/2012

PART I — ADMINISTRATIVE

Chapter 1 SCOPE AND ADMINISTRATION

Deleted in its entirety.

PART II — DEFINITIONS

Chapter 2 DEFINITIONS

Adopted without changes or additions.

PART III — BUILDING PLANNING AND CONSTRUCTION

Chapter 3 BUILDING PLANNING

R301.2 Climate and geographic design criteria.

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., “negligible,” “moderate” or “severe”) for concrete as determined from the Weathering Probability Map Figure R301.2(3). The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1 (1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure 301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 ½ - percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.

f. The jurisdiction shall fill in this part of the table with the Seismic Design Category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.2.7.1, R905.4.3, R905.5.3, R905.6.3, R905.7.3 and R905.8.3, for areas where the average daily temperature in January is 25° F (-4° C) or less, or where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall fill in this part of the table with “NO.”

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table “Air Freezing Index- USA Method (Base 32° Fahrenheit)” at www.ncdc.noaa.gov/fpsf.html.

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table “Air Freezing Index- USA Method (Base 32° Fahrenheit)” at www.ncdc.noaa.gov/fpsf.html.

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

l. Including all subsequent amendments and/or the most current revision thereof.

TABLE R301.2(1)

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMPE ^e SUMMER Wet bulb/Dry bulb	ICE BARRIER UNDER-LAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMPJ	ASSUMED SOIL BEARING
	Speed ^d (mph)	Topographic Effects ^k		Weathering ^a	Frost line depth ^b	Termite ^c						
25	90	No	A & B	Severe	24"	Moderate to heavy	18 89/75	No	March 15, 1978 May 5, 2003	325	56.2	2000 psf

Section R311 - Means of Egress

R311.7.5 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.

R311.7.5.1 Risers. The maximum riser height shall be 8-1/4 inches (209.6 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). The riser height at landings with hinged doors shall be measured from the landing vertically to the top of the threshold (not the compression strip). The riser height at landings with sliding doors shall be measured from the landing vertically to the top of the highest projection of the door track. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted provided that the opening between treads does not permit the passage of a 6-inch-diameter (102 mm) sphere.

Exception: The opening between adjacent treads is not limited on stairs with a total rise of 8 - 1/4 inches (209.55 mm) or less.

R311.7.5.2 Treads. 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 tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

Section R312 - Guards and Window Fall Protection

R312.1.2 Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall not be less than 36 inches (914 mm) high measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads.

Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Section R313 - Automatic Fire Sprinkler Systems

Deleted in its entirety.

Section R314 - Smoke Alarms

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity, within 10 feet (3048 mm) of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics, but not including crawlspaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level, provided that the lower level is less than one full story below the upper level.

Section R319 - Site Address

R319.1 Street identification. Permanent street signs shall be in place prior to the issuance of the Certificate of Occupancy.

Section R322 - Flood-Resistant Construction

Definitions.

DESIGN FLOOD ELEVATION (DFE): The elevation of the highest flood (generally the BFE including freeboard) that a retrofitting

method is designed to protect against. Also referred to as Flood Protection Elevation.

R322.1.4 Establishing the design flood elevation. The design flood elevation shall be used to define flood hazard areas. At a minimum, the design flood elevation is the higher of:

1. The base flood elevation at the depth of peak elevation of flooding (including wave height), which has a 1 percent (100-year flood) or greater chance of being equaled or exceeded in any given year; or
2. The elevation of the design flood associated with the area designated on a flood hazard map plus the freeboard as adopted by the community, or otherwise legally designated.

R322.1.4.1 Determination of design flood elevations. Submit a current FEMA Form 81-31, Elevation Certificate, completed by a registered design professional, licensed in the State of Delaware, and if the design flood elevations are not specified, the building official is authorized to require the applicant to:

1. Obtain and reasonably use data available from a federal, state or other source; or
2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a registered design professional who shall document that the technical methods used reflect currently accepted engineering practice. Studies, analyses and computations shall be submitted in sufficient detail to allow thorough review and approval.

R322.1.6 Protection of mechanical and electrical systems. Electrical systems, equipment and components; heating, ventilating, air conditioning equipment; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall be located at or above the base flood elevation noted on the FIRM's elevation required in Sections R322.2 or R322.3. If replaced as part of a substantial improvement, electrical systems, equipment and components; heating, ventilating, air conditioning equipment; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall meet the requirements of this section. Systems, fixtures, equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

Exception: Locating electrical systems, equipment and components; heating, ventilating, air conditioning equipment; plumbing appliances and plumbing fixtures; duct systems; and other service equipment is permitted below the elevation required in Sections R322.2 and R322.3, provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in accordance with ASCE 24. Electrical wiring systems are permitted to be located below the required elevation, provided they conform to the provisions of the electrical part of this code for wet locations.

R322.1.9 Manufactured homes: placement of buildings and structures. New or replacement manufactured homes, buildings, or structures shall be elevated in accordance with Sections R322.2 or R322.3. The anchor and tie-down requirements of Sections AE604 and AE605 §156-17 of Appendix R, Manufactured Housing Code, shall apply. The foundation and anchorage of manufactured homes to be located in identified floodways shall be designed and constructed in accordance with ASCE 24.

For additional requirements, see the Kent County Code, §205-373, B, (3), Placement of buildings, structures and manufactured homes.

The remainder of this chapter is adopted without change or addition.

Chapter 4 FOUNDATIONS

Section R403 - Footings

R403.1.1 Minimum size. Minimum sizes for concrete and masonry footings shall be as set forth in Table R403.1 and Figure R403.1(1). The footing width, W, shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Spread footings shall be at least 6 inches (152 mm) in thickness, T. Footing projections, P, shall be at least 2 inches (51 mm) and shall not exceed the thickness of the footing. See Figure R403.1(1) in the International Residential Code/2012.

CONCRETE AND MASONRY FOUNDATION DETAILS. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4(1). Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1 (2) and R403.1 (3).

Exception:

1. Footings for single story decks shall be in accordance with the *American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide*.
2. Decks having vertical members spaced 6 feet (1289 mm) on center or less may be placed on a 4 inch (101 mm) concrete pad, provided the vertical members are placed 12 inches (305 mm) inside the perimeter of the pad and are anchored on all corners with approved anchoring devices. Decks 20 feet (6096 mm) or more in length shall have two additional anchors installed on each side mid-span.
3. Residential accessory structures less than 300 square feet (27 sq meters) in area, with the exception of a pole building and garage, shall be leveled and secured with tie-downs or equivalent manufactured home anchoring devices, one in each corner. Structures 20 feet (6096 mm) or more in length shall have two additional anchors installed on each side mid-span. All lumber and wood siding is to be pressure treated from grade to 8 inches (203 mm) above finished grade. Pressure treated lumber shall meet the requirements set forth in Section R317.
4. Prefabricated room enclosures are to be placed on an approved support system per the manufacturer's installation instructions.

R403.1.6 Foundation anchorage. Sill plates and walls supported directly on continuous foundations shall be anchored to the foundation in accordance with this section. Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of braced wall panels at building interiors on monolithic slabs, and all wood sill plates shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. Bolts shall be at least 1/2 inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each anchor bolt. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters (3 1/2 inches) from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a braced wall panel shall be positively anchored with approved fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Sections R317 and R318. Cold-formed steel framing systems shall be fastened to wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.3.1.

Exceptions:

1. Foundation anchorage, spaced as required to provide equivalent anchorage to 1/2-inch-diameter (12.7 mm) anchor bolts.
2. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners, as shown in item 8 of Table R602.3(1).
3. Connection of walls 12 inches (305 mm) total length or shorter connecting offset braced wall panels to the foundation without anchor bolts shall be permitted. The wall shall be attached to adjacent braced wall panels at corners, as shown in item 8 of Table R602.3(1).

Section R405 - Foundation Drainage

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or installed mechanical means (sump pump) into an approved drainage system. Gravel or crushed stone drains shall extend at least 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Perforated drains shall be surrounded with an approved filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock at least one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

R405.1.1 Precast concrete foundation. Precast concrete walls that retain earth and enclose habitable or useable space located below-grade that rest on crushed stone footings shall have a perforated drainage pipe installed below the base of the wall on either the interior or exterior side of the wall, at least one foot (305 mm) beyond the edge of the wall. If the exterior drainage pipe is used, an approved filter membrane material shall cover the pipe. The drainage system shall

discharge into an approved sewer system by gravity or installed mechanical means (sump pump) into an approved drainage system or to daylight.

R405.2.3 Drainage system. In other than Group I soils, a sump shall be provided to drain the porous layer and footings. The sump shall be at least 24 inches (610 mm) in diameter or 20 inches square (0.0129 m²), shall extend at least 24 inches (610 mm) below the bottom of the basement floor and shall be capable of positive gravity or installed mechanical drainage (sump pump) to remove any accumulated water. The drainage system shall discharge into an approved drainage system or to daylight.

The remainder of the chapter is adopted without changes or additions.

Chapter 5 FLOORS

Section R502 – Allowable Joist Spans

R502.3 Allowable joist spans. Spans for floor joists shall be in accordance with Tables R502.3.1(1) and R502.3.1(2). For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters.

R502.3.4 Deck floor joist spans. Deck floor joist spans shall be in accordance with the *American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide*.

R502.5 Allowable girder spans. The allowable spans of girders fabricated of dimension lumber shall not exceed the values set forth in Tables R502.5(1) and R502.5(2).

R502.5.1 Deck girder spans. Deck girder spans shall be in accordance with the *American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide*.

The remainder of the chapter is adopted without changes or additions.

Chapter 6 WALL CONSTRUCTION

Section R602 – Wood Wall Framing

R602.10 Wall bracing. Buildings shall be braced in accordance with this section or, when applicable, Section R602.12. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with Section R301.1.

Exception: Porches with roofs and screen porches shall not be required to comply with the requirements of R602.10, Wall Bracing, when constructed with approved translucent or transparent plastic not more than 0.125 inch (3.2 mm) in thickness.

Section R614 - Post Frame Buildings

R614.1 Definitions.

POST FRAME BUILDING: A structural building frame consisting of a wood truss or rafters connected to vertical timber columns or sidewall posts, which function as the principal gravity and load resisting elements of the building. A building used for motor vehicles is considered a garage and must meet the requirements in section R309 as well as Section 614 of this code.

Section R615 - Plan Submittals

R615.1 Design loads. Plans are required to meet the minimum design loads noted in Table R301.2(1). Uplift reaction forces involved are required to be provided.

R615.2 Truss design drawings. Truss design drawings are required at the time of plan submittal. The building plans should specify the permanent bracing for cords and webs to meet the bracing requirements shown on the truss design drawings.

R615.3 Size, grade, and species of wood members. All lumber shown on the submitted drawings should identify the size, grade and species or species group. Any engineered lumber should be identified by the product name, size and stress grade.

R615.4 Isolation of siding. Methods and materials to isolate steel siding from preservatives treated lumber should be specified

and detailed on the submitted plans.

R615.5 Connection of truss carrier to bearing post. Submitted plans shall specify a bearing notch, properly designed bearing block, or other means for positive load transfer.

R615.6 Fastener schedule. Submitted plans are required to include a fastener schedule completely describing the fasteners and quantities required at each connection. Power driven nails should specify the type, diameter and length.

R615.7 Roofing and siding diaphragms. Submitted plans shall include metal roof and wall panel thickness, fastener type and size, and the fastener pattern for roof and siding panels. If stitch screws are required to attach metal sheet-to-sheet, the plans should show the locations. Shingled roofs shall meet the requirements of Section R905.

Section R616 - Footings

R616.1 Footing depth. Footings for post frame structures shall extend a minimum of 40 inches (914 mm) below grade.

R616.2 Footing size. Footings for all post frame structures shall be sized to support the loads imposed. Minimum footing sizes for all post frame structures shall be 18 inches (457 mm) diameter and a minimum of 12 inches (203 mm) thick concrete under the support posts.

R616.3 Resistance to uplift. A lumber cleat shall be attached to the bottom of all vertical support posts to resist uplift.

Exception: Other means to resist uplift may be used and should be noted on the submitted plans.

Section R617 - Frame Construction

R617.1 Preservative treatment. All wood in contact with the ground shall be preservatively treated meeting the requirements of Section R319.

R617.2 Support posts. Support posts fabricated from multiple plies shall have the number of plies of lumber, lumber species, grade, and connection system between plies noted.

R617.3 Truss carrier spans. The allowable spans for truss carriers fabricated of dimensional lumber shall not exceed the values set forth in Tables R617.4(1) through R617.4(3). Spans exceeding the values set forth in Tables R617.4(1) through R617.4(3) shall be engineered.

Table R617.4(1)					
Truss Carrier Spans					
48" O.C. Support Post Spacing					
Truss Spacing	Header Supporting ^a	(2)2x6	(2)2x8	(2)2x10	(2)2x12
		lbs ^b	lbs ^b	lbs ^b	lbs ^b
24"	Douglas fir - Larch	1201	1584	2021	2458
	Hem - fir	948	1250	1595	1940
	Southern yellow pine	1138	1500	1914	2328
	Spruce - pine - fir	885	1167	1489	1811

Table R617.4(2)					
Truss Carrier Spans					
72" O.C. Support Post Spacing					
Truss Spacing	Header Supporting ^a	(2)2x6	(2)2x8	(2)2x10	(2)2x12
		lbs ^b	lbs ^b	lbs ^b	lbs ^b
24"	Douglas fir - Larch	862	1186	1513	1841
	Hem - fir	710	936	1195	1450
	Southern yellow pine	851	1124	1434	1744
	Spruce - pine - fir	663	874	1115	1356
36"	Douglas fir - Larch	1130	1584	2021	2458

	Hem - fir	948	1250	1595	1940
	Southern yellow pine	1138	1500	1914	2328
	Spruce - pine - fir	885	1167	1489	1711

Table R617.4(3)					
Truss Carrier Spans					
96" O.C. Support Post Spacing					
Truss Spacing	Header Supporting ^a	(2)2x6	(2)2x8	(2)2x10	(2)2x12
		lbs ^b	lbs ^b	lbs ^b	lbs ^b
24"	Douglas fir - Larch	487	782	1162	1413
	Hem - fir	460	719	917	1115
	Southern yellow pine	654	862	1100	1339
	Spruce - pine - fir	474	671	856	1041
48"	Douglas fir - Larch	847	1360	2021	2458
	Hem - fir	800	1250	1595	1940
	Southern yellow pine	1138	1500	1914	2328
	Spruce - pine - fir	824	1167	1489	1811

a. Tabulated values assume #2 grade lumber.

b. Truss reactions = Total load.

The remainder of the chapter is adopted without changes or additions.

Chapter 7 WALL COVERING

Adopted without changes or additions.

Chapter 8 ROOF-CEILING CONSTRUCTION

Section R802 - Wood Roof Framing

R802.5 Allowable rafter spans. Spans for rafters shall be in accordance with Tables R802.5.1(1) through R802.5.1(8).

For other grades and species and for other loading conditions, refer to the AF&PA *Span Tables for Joists and Rafters*. The span of each rafter shall be measured along the horizontal projection of the rafter.

Replaced Table 802.5.1(4) through Table 802.5.1(8) with Table 802.5.1(4) and Table 802.5.1(5).

TABLE 802.5.1(4)

Rafter Spans For 25 Psf Ground Snow Load
(Ceiling not attached to rafters, L/Δ = 180)

Rafter Spacing (Inches)	Species And Grade		Dead Load = 10 Psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Rafter Spans (feet-inches)				
12	Douglas fir-larch	SS	10' - 8"	16' - 9"	22' - 1"	*	*
	Douglas fir-larch	#1	10' - 3"	15' - 9"	19' - 1"	24' - 4"	*
	Douglas fir-larch	#2	10' - 1"	14' - 11"	18' - 11"	23' - 1"	*
	Douglas fir-larch	#3	7' - 10"	11' - 5"	14' - 5"	17' - 8"	20' - 5"
	Hem-fir	SS	10' - 1"	15' - 10"	20' - 10"	*	*
	Hem-fir	#1	9' - 10"	15' - 6"	19' - 8"	24' - 0"	*
	Hem-fir	#2	9' - 5"	14' - 6"	18' - 4"	22' - 5"	26' - 0"
	Hem-fir	#3	7' - 7"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
	Southern pine	SS	10' - 5"	16' - 5"	21' - 8"	*	*
	Southern pine	#1	10' - 3"	16' - 1"	21' - 3"	*	*
	Southern pine	#2	9' - 0"	15' - 5"	19' - 11"	23' - 9"	27' - 11"
	Southern pine	#3	6' - 10"	11' - 11"	15' - 3"	18' - 0"	21' - 5"
	Spruce-pine-fir	SS	9' - 10"	15' - 6"	20' - 5"	26' - 0"	*
	Spruce-pine-fir	#1	9' - 7"	14' - 9"	18' - 8"	22' - 9"	*
	Spruce-pine-fir	#2	9' - 7"	14' - 9"	18' - 8"	22' - 9"	*
	Spruce-pine-fir	#3	7' - 7"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
16	Douglas fir-larch	SS	9' - 8"	15' - 2"	20' - 0"	25' - 7"	*
	Douglas fir-larch	#1	9' - 4"	12' - 8"	17' - 3"	21' - 1"	24' - 5"
	Douglas fir-larch	#2	8' - 10"	12' - 11"	16' - 4"	20' - 0"	23' - 2"
	Douglas fir-larch	#3	6' - 9"	9' - 11"	12' - 6"	15' - 3"	17' - 9"
	Hem-fir	SS	9' - 2"	14' - 4"	18' - 11"	24' - 2"	*
	Hem-fir	#1	8' - 11"	13' - 5"	17' - 1"	20' - 10"	24' - 2"
	Hem-fir	#2	8' - 6"	12' - 7"	15' - 11"	19' - 5"	22' - 6"
	Hem-fir	#3	6' - 7"	9' - 8"	12' - 2"	14' - 11"	17' - 2"
	Southern pine	SS	9' - 6"	14' - 11"	19' - 8"	23' - 7"	*
	Southern pine	#1	9' - 4"	14' - 8"	19' - 4"	23' - 11"	*
	Southern pine	#2	7' - 10"	13' - 4"	17' - 3"	20' - 7"	24' - 2"
	Southern pine	#3	5' - 11"	10' - 4"	13' - 2"	15' - 7"	18' - 6"
	Spruce-pine-fir	SS	8' - 11"	14' - 1"	18' - 6"	23' - 7"	*
	Spruce-pine-fir	#1	8' - 9"	12' - 9"	16' - 2"	19' - 9"	22' - 10"
	Spruce-pine-fir	#2	8' - 9"	12' - 9"	16' - 2"	19' - 9"	22' - 10"
	Spruce-pine-fir	#3	6' - 7"	9' - 8"	12' - 2"	14' - 11"	17' - 3"

TABLE 802.5.1(4) - continued

Rafter Spacing (Inches)	Species And Grade		Dead Load = 10 Psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Rafter Spans (feet-inches)				
19.2	Douglas fir-larch	SS	9' - 1"	14' - 4"	18' - 10"	23' - 7"	*
	Douglas fir-larch	#1	8' - 6"	14' - 4"	15' - 9"	19' - 3"	22' - 4"
	Douglas fir-larch	#2	8' - 1"	11' - 10"	14' - 11"	18' - 3"	21' - 2"
	Douglas fir-larch	#3	6' - 2"	9' - 0"	11' - 5"	13' - 11"	16' - 2"
	Hem-fir	SS	8' - 7"	13' - 6"	17' - 10"	22' - 8"	*
	Hem-fir	#1	8' - 5"	12' - 3"	15' - 7"	19' - 6"	22' - 0"
	Hem-fir	#2	7' - 10"	11' - 6"	14' - 6"	17' - 9"	20' - 7"
	Hem-fir	#3	6' - 0"	8' - 10"	11' - 2"	13' - 7"	15' - 9"
	Southern pine	SS	8' - 11"	14' - 1"	18' - 6"	23' - 8"	*
	Southern pine	#1	8' - 9"	13' - 9"	17' - 7"	20' - 11"	24' - 11"
	Southern pine	#2	7' - 1"	12' - 2"	15' - 9"	18' - 10"	22' - 0"
	Southern pine	#3	5' - 5"	9' - 5"	12' - 0"	14' - 3"	16' - 11"
	Spruce-pine-fir	SS	8' - 5"	13' - 3"	17' - 5"	21' - 6"	24' - 11"
	Spruce-pine-fir	#1	7' - 11"	11' - 8"	14' - 9"	18' - 0"	20' - 11"
	Spruce-pine-fir	#2	7' - 11"	11' - 8"	14' - 9"	18' - 0"	20' - 11"
	Spruce-pine-fir	#3	6' - 0"	8' - 10"	11' - 2"	13' - 7"	5' - 9"
24	Douglas fir-larch	SS	8' - 5"	13' - 3"	17' - 3"	21' - 1"	24' - 5"
	Douglas fir-larch	#1	7' - 7"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
	Douglas fir-larch	#2	7' - 3"	10' - 7"	13' - 4"	16' - 4"	18' - 11"
	Douglas fir-larch	#3	5' - 6"	8' - 1"	10' - 3"	12' - 6"	14' - 6"
	Hem-fir	SS	8' - 0"	12' - 6"	16' - 6"	20' - 4"	23' - 7"
	Hem-fir	#1	7' - 6"	11' - 0"	13' - 11"	17' - 0"	19' - 9"
	Hem-fir	#2	7' - 0"	10' - 3"	13' - 0"	15' - 10"	18' - 5"
	Hem-fir	#3	5' - 5"	7' - 10"	10' - 0"	12' - 2"	14' - 1"
	Southern pine	SS	8' - 4"	13' - 1"	17' - 2"	21' - 11"	*
	Southern pine	#1	8' - 2"	12' - 6"	15' - 9"	18' - 9"	22' - 4"
	Southern pine	#2	6' - 4"	10' - 11"	14' - 1"	16' - 10"	19' - 9"
	Southern pine	#3	4' - 10"	8' - 5"	10' - 9"	12' - 9"	15' - 2"
	Spruce-pine-fir	SS	7' - 10"	12' - 3"	15' - 9"	19' - 3"	22' - 4"
	Spruce-pine-fir	#1	7' - 1"	10' - 5"	13' - 2"	16' - 1"	18' - 8"
	Spruce-pine-fir	#2	7' - 1"	10' - 5"	13' - 2"	16' - 1"	18' - 8"
	Spruce-pine-fir	#3	5' - 5"	7' - 10"	10' - 0"	12' - 2"	14' - 1"

Check sources for availability of lumber in lengths greater than 20 feet.

For SI: 1 inch = 25.4 mm, foot = 304.8 mm, 1 pound = 0.0479 kPa.

- a. The tabulated rafter spans assume that ceiling joists are located at the bottom of the attic space or that some other method of resisting the outward push of the rafters on the bearing walls, such as rafter ties, is provided at that location. When ceiling joists or rafter ties are located higher in the space, the rafter spans shall be multiplied by the factors given below.

H _c /H _R	Rafter Span Adjustment Factor
1/3	0.67
1/4	0.76
1/5	0.83
1/6	0.90
1/7.5 or less	1.00

Where:

H_c = Height of ceiling joists or rafter ties measured vertically above the top of the rafter support walls.

H_R = Height of roof ridge measured vertically above the top of the rafter support walls.

TABLE 802.5.1(5)

Rafter Spans For 25 Psf Ground Snow Load
(Ceiling attached to rafters, L/Δ = 240)

Rafter Spacing (Inches)	Species And Grade		Dead Load = 10 Psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Rafter Spans (feet-inches)				
12	Douglas fir-larch	SS	9' - 8"	15' - 2"	20' - 0"	25' - 7"	*
	Douglas fir-larch	#1	9' - 4"	14' - 8"	19' - 4"	24' - 4"	*
	Douglas fir-larch	#2	9' - 2"	14' - 4"	18' - 11"	23' - 1"	*
	Douglas fir-larch	#3	7' - 0"	11' - 5"	14' - 5"	17' - 8"	20' - 5"
	Hem-fir	SS	9' - 2"	14' - 4"	18' - 11"	24' - 2"	*
	Hem-fir	#1	8' - 11"	14' - 1"	18' - 6"	23' - 8"	*
	Hem-fir	#2	8' - 6"	13' - 5"	17' - 8"	22' - 5"	26' - 0"
	Hem-fir	#3	7' - 7"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
	Southern pine	SS	9' - 6"	14' - 11"	19' - 8"	25' - 1"	*
	Southern pine	#1	9' - 4"	14' - 8"	19' - 4"	24' - 8"	*
	Southern pine	#2	8' - 9"	14' - 4"	18' - 11"	23' - 9"	*
	Southern pine	#3	6' - 10"	11' - 11"	15' - 3"	18' - 0"	21' - 5"
	Spruce-pine-fir	SS	8' - 11"	14' - 1"	18' - 6"	23' - 8"	*
	Spruce-pine-fir	#1	8' - 9"	13' - 9"	18' - 1"	22' - 9"	*
	Spruce-pine-fir	#2	8' - 9"	13' - 9"	18' - 1"	22' - 9"	*
	Spruce-pine-fir	#3	7' - 7"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
16	Douglas fir-larch	SS	8' - 9"	13' - 10"	18' - 10"	23' - 3"	*
	Douglas fir-larch	#1	8' - 6"	13' - 4"	17' - 3"	21' - 1"	*
	Douglas fir-larch	#2	8' - 4"	12' - 11"	16' - 4"	20' - 0"	23' - 2"
	Douglas fir-larch	#3	6' - 9"	9' - 11"	12' - 6"	15' - 3"	17' - 9"
	Hem-fir	SS	8' - 4"	13' - 1"	17' - 2"	21' - 11"	*
	Hem-fir	#1	8' - 1"	12' - 9"	16' - 10"	20' - 10"	24' - 2"
	Hem-fir	#2	7' - 9"	12' - 2"	15' - 11"	19' - 5"	22' - 6"
	Hem-fir	#3	6' - 7"	9' - 8"	12' - 2"	14' - 11"	17' - 3"
	Southern pine	SS	8' - 8"	13' - 7"	17' - 11"	23' - 10"	*
	Southern pine	#1	8' - 6"	13' - 4"	17' - 7"	22' - 5"	*
	Southern pine	#2	7' - 10"	13' - 1"	17' - 2"	20' - 7"	24' - 2"
	Southern pine	#3	5' - 11"	10' - 4"	13' - 2"	15' - 7"	18' - 6"
	Spruce-pine-fir	SS	8' - 1"	12' - 9"	16' - 10"	21' - 6"	*
	Spruce-pine-fir	#1	7' - 11"	12' - 6"	16' - 2"	19' - 9"	22' - 10"
	Spruce-pine-fir	#2	7' - 11"	12' - 6"	16' - 2"	19' - 9"	22' - 10"
	Spruce-pine-fir	#3	6' - 7"	9' - 8"	12' - 2"	14' - 11"	17' - 3"

TABLE 802.5.1(5) - continued

Rafter Spacing (Inches)	Species And Grade		Dead Load = 10 Psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum Rafter Spans (feet-inches)				
19.2	Douglas fir-larch	SS	8' - 3"	13' - 0"	17' - 2"	21' - 10"	26' - 7"
	Douglas fir-larch	#1	8' - 0"	12' - 5"	15' - 9"	19' - 3"	22' - 7"
	Douglas fir-larch	#2	7' - 10"	11' - 10"	14' - 11"	18' - 3"	21' - 2"
	Douglas fir-larch	#3	6' - 2"	9' - 0"	11' - 5"	13' - 11"	16' - 2"
	Hem-fir	SS	7' - 10"	12' - 3"	16' - 2"	20' - 8"	25' - 1"
	Hem-fir	#1	7' - 8"	12' - 0"	15' - 7"	19' - 0"	22' - 0"
	Hem-fir	#2	7' - 3"	11' - 5"	14' - 6"	17' - 9"	20' - 7"
	Hem-fir	#3	6' - 0"	8' - 10"	11' - 2"	13' - 7"	15' - 9"
	Southern pine	SS	8' - 1"	12' - 9"	16' - 10"	21' - 6"	*
	Southern pine	#1	8' - 0"	12' - 6"	16' - 6"	20' - 11"	24' - 11"
	Southern pine	#2	7' - 1"	12' - 2"	15' - 9"	18' - 10"	22' - 0"
	Southern pine	#3	5' - 5"	9' - 5"	12' - 0"	14' - 3"	16' - 11"
	Spruce-pine-fir	SS	7' - 8"	12' - 0"	15' - 10"	20' - 2"	24' - 7"
	Spruce-pine-fir	#1	7' - 6"	11' - 8"	14' - 9"	18' - 0"	21' - 11"
	Spruce-pine-fir	#2	7' - 6"	11' - 8"	14' - 9"	18' - 0"	21' - 11"
	Spruce-pine-fir	#3	6' - 0"	8' - 10"	11' - 2"	13' - 7"	15' - 9"
24	Douglas fir-larch	SS	7' - 8"	12' - 1"	15' - 11"	20' - 3"	24' - 5"
	Douglas fir-larch	#1	7' - 5"	11' - 2"	14' - 1"	17' - 3"	20' - 0"
	Douglas fir-larch	#2	7' - 3"	10' - 7"	13' - 4"	16' - 4"	18' - 11"
	Douglas fir-larch	#3	5' - 6"	8' - 1"	10' - 3"	12' - 6"	14' - 6"
	Hem-fir	SS	7' - 3"	11' - 5"	15' - 0"	19' - 2"	23' - 4"
	Hem-fir	#1	7' - 1"	11' - 0"	13' - 11"	17' - 0"	19' - 9"
	Hem-fir	#2	6' - 9"	10' - 3"	13' - 0"	15' - 10"	18' - 5"
	Hem-fir	#3	5' - 5"	7' - 10"	10' - 0"	12' - 2"	14' - 1"
	Southern pine	SS	7' - 8"	12' - 1"	15' - 11"	20' - 3"	24' - 8"
	Southern pine	#1	7' - 5"	11' - 8"	15' - 4"	18' - 9"	22' - 4"
	Southern pine	#2	6' - 4"	10' - 11"	14' - 1"	16' - 10"	19' - 9"
	Southern pine	#3	4' - 10"	8' - 5"	10' - 9"	12' - 4"	15' - 2"
	Spruce-pine-fir	SS	7' - 1"	11' - 2"	14' - 8"	18' - 9"	22' - 4"
	Spruce-pine-fir	#1	6' - 11"	10' - 5"	13' - 2"	16' - 1"	18' - 8"
	Spruce-pine-fir	#2	6' - 11"	10' - 5"	13' - 2"	16' - 1"	18' - 8"
	Spruce-pine-fir	#3	5' - 5"	7' - 10"	10' - 0"	12' - 2"	14' - 1"

Check sources for availability of lumber in lengths greater than 20 feet.

For SI: 1 inch = 25.4 mm, foot = 304.8 mm, 1 pound = 0.0479 kPa.

- b. The tabulated rafter spans assume that ceiling joists are located at the bottom of the attic space or that some other method of resisting the outward push of the rafters on the bearing walls, such as rafter ties, is provided at that location. When ceiling joists or rafter ties are located higher in the space, the rafter spans shall be multiplied by the factors given below.

H _c /H _R	Rafter Span Adjustment Factor
1/3	0.67
1/4	0.76
1/5	0.83
1/6	0.90
1/7.5 or less	1.00

Where:

H_c = Height of ceiling joists or rafter ties measured vertically above the top of the rafter support walls.

H_R = Height of roof ridge measured vertically above the top of the rafter support walls.

The remainder of the chapter is adopted without changes or additions.

**Chapter 9
ROOF ASSEMBLIES**

Adopted without changes or additions.

**Chapter 10
CHIMNEYS AND FIREPLACES**

Adopted without changes or additions.

PART IV – ENERGY CONSERVATION

**Chapter 11
ENERGY EFFICIENCY**

Deleted in its entirety. Refer to current adopted State Energy Code.

PART V – MECHANICAL

**Chapter 12
MECHANICAL ADMINISTRATION**

Adopted without changes or additions.

**Chapter 13
GENERAL MECHANICAL SYSTEM REQUIREMENTS**

Adopted without changes or additions.

**Chapter 14
HEATING AND COOLING REQUIREMENTS**

Adopted without changes or additions.

**Chapter 15
EXHAUST SYSTEMS**

Section M1501 – General

M1501.1 Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors in accordance with Section M1506.2. Air shall not be exhausted into an attic, soffit, ridge vent or crawl space.

Exception: Whole-house ventilation-type attic fans that discharge into the attic space of dwelling units having private attics shall be permitted.

M1501.1.1 When Required. Where a compartment or space for domestic clothes dryer is provided, an exhaust system shall be installed in accordance with Section M1502

The remainder of the chapter is adopted without changes or additions.

**Chapter 16
DUCT SYSTEMS**

Adopted without changes or additions.

**Chapter 17
COMBUSTION AIR**

Adopted without changes or additions.

**Chapter 18
CHIMNEYS AND VENTS**

Adopted without changes or additions.

**Chapter 19
SPECIAL APPLIANCES, EQUIPMENT, AND SYSTEMS**

Adopted without changes or additions.

**Chapter 20
BOILERS AND WATER HEATERS**

Adopted without changes or additions.

**Chapter 21
HYDRONIC PIPING**

Adopted without changes or additions.

**Chapter 22
SPECIAL PIPING AND STORAGE SYSTEMS**

Adopted without changes or additions.

**Chapter 23
SOLAR ENERGY SYSTEMS**

Adopted without changes or additions.

PART VII – FUEL GAS

**Chapter 24
FUEL GAS**

Adopted without changes or additions.

PART VII – PLUMBING

Deleted in its entirety. Refer to current adopted State Plumbing Code.

**Chapter 25
PLUMBING ADMINISTRATION**

Deleted in its entirety.

**Chapter 26
GENERAL PLUMBING REQUIREMENTS**

Deleted in its entirety.

**Chapter 27
PLUMBING FIXTURES**

Deleted in its entirety.

**Chapter 28
WATER HEATERS**

Deleted in its entirety.

**Chapter 29
WATER SUPPLY AND DISTRIBUTION**

Deleted in its entirety.

**Chapter 30
SANITARY DRAINAGE**

Deleted in its entirety.

**Chapter 31
VENTS**

Deleted in its entirety.

**Chapter 32
TRAPS**

Deleted in its entirety.

**Chapter 33
STORM DRAINAGE**

Deleted in its entirety.

PART VIII - ELECTRICAL

**Chapter 34
GENERAL REQUIREMENTS**

Deleted in its entirety. Refer to current adopted State Electrical Code.

**Chapter 35
ELECTRICAL DEFINITIONS**

Deleted in its entirety.

**Chapter 36
SERVICES**

Deleted in its entirety.

**Chapter 37
BRANCH CIRCUITS AND FEEDER REQUIREMENTS**

Deleted in its entirety.

**Chapter 38
WIRING METHODS**

Deleted in its entirety.

**Chapter 39
POWER AND LIGHT DISTRIBUTION**

Deleted in its entirety.

**Chapter 40
LIGHT FIXTURES**

Deleted in its entirety.

**Chapter 41
APPLIANCE INSTALLATION**

Deleted in its entirety.

**Chapter 42
SWIMMING POOLS**

Deleted in its entirety.

**Chapter 43
CLASS 2 REMOTE-CONTROL SIGNALING AND POWER-LIMITED CIRCUITS**

Deleted in its entirety.

PART IX – REFERENCED STANDARDS

**Chapter 44
REFERENCED STANDARDS**

Adopted without changes or additions.

**Appendix C
EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT-VENTING SYSTEMS**

Adopted without changes or additions.

**Appendix G
SWIMMING POOLS, SPAS AND HOT TUBS**

(The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.)

Section AG102 - Definitions

SWIMMING POOL: Any structure intended for swimming or recreational bathing that contains water over is capable of containing 24 inches (610 mm) deep or more water. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

Section AG105 - Barrier Requirements

AG105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground or above-ground or on-ground pool, hot tub or spa, shall be surrounded by a barrier, which shall comply with the following:

11. For split rail fences, 14 gauge wire with openings no greater than 2 inches (51 mm) wide and 4 inches (102 mm) high shall be permitted. The fence must be 48 inches (1219 mm) high with the top edge securely fastened to the top rail. The wire must be applied on the side away from the pool (outside).

The remainder of this appendix is adopted without changes or additions.

**Appendix J
EXISTING BUILDINGS AND STRUCTURES**

Adopted without changes or additions.

**Appendix M
HOME DAY CARE – R-3 OCCUPANCY**

SECTION AM103 - MEANS OF EGRESS

AM103.1.3 Yards. If required by the State of Delaware Division of Child Care Licensing, the yard is to be used as part of the daycare operation, it shall be fenced. See Kent County Levy Court Ordinance #10-17, adopted 10/12/2012.

AM103.1.3.1 Type of fence and hardware. The fence shall be of durable materials and be at least 4 feet (1219 mm) tall, completely enclosing the area used for the daycare operations. Each opening shall be a gate or door equipped with

a self-closing and self-latching device to be installed at a minimum of 5 feet (1528 mm) above the ground, or a height high enough or such that a small child cannot open it.

Exception: The door of any dwelling forming part of the enclosure need not be equipped with self-closing and self-latching devices.

The remainder of this appendix is adopted without changes or additions.

Appendix R MANUFACTURED HOUSING CODE

Kent County Code, Chapter 156, Manufactured Homes

General References

History: Adopted by the Levy Court of Kent County 09/10/1996 by Ordinance No. 96-15. Amendments noted as applicable.

Article I International Building Code 2012 & International Residential Code 2012 [Adopted 3/25/2014 by ordinance No.14-05]

§ 156-1 Scope. This document covers the installation of manufactured homes, wherever located, whenever manufacturer's installation instructions are not available or when manufacturer's instruction do not adequately cover special conditions required for the installation (for example, but not limited to, installation in a floodplain). It is not intended to be applied retroactively to existing sites except where Kent County considers such application essential for the safety and health of the occupants or users of the site. An acceptable alternative to this document is a set of plans and specifications for a particular installation prepared and sealed by a registered design professional.

§ 156-2 Intended usage of manufactured homes covered under these regulations. The provisions of this standard are intended to apply to manufactured homes (single-section, multi-section, or expandable types) for use as single-family dwellings.

Note 1: The Federal Manufactured Home Construction and Safety Standards (MHCSS) cover one-family occupancies only. This chapter makes no provisions for other residential occupancies.

Note 2: This chapter does not apply to manufactured homes used for other than dwelling purposes.

Note 3: The provisions of this chapter shall not apply to recreational vehicles as defined in the National Fire Protection Association (NFPA) 501C, Standard for Recreational Vehicles, or to park trailers as defined by Delaware Code.

A. Types of manufactured homes covered. The manufactured homes covered under this chapter are manufactured homes complying with the United States Department of Housing and Urban Development (HUD) MHCSS Program, as set forth in 24 CFR 3280, 3282, and 3283, as mandated in the United States of America and manufactured homes built prior to June 15, 1976, including those complying with the Standard for Mobile Homes, NFPA 01 B/ANSI A119.1 Edition, in effect at the time of manufacture.

NOTE: The federal standards, regulations and requirements for manufactured housing, as authorized by 42 U.S.C. § 5401 at seq., are as follows:

- Part 3280 – MCHSS
- Part 3282 – Manufactured Homes Procedural and Enforcement Regulations,
- Part 3283 – Manufactured Homes Consumer Manual Requirements

Hereafter, throughout the sections of his document, "manufactured home" will be used interchangeably with "home."

B. Organization of chapter. This chapter consists of sections, generally divided by the kinds of work involved in properly setting up a home.

C. Use of this chapter.

- (1) This chapter contains instructions, including specifications and procedures, for installation and hookup of a manufactured home. It has been written in an objective and easy-to-understand manner so that it can be understood by those who lack extensive technical training. It discusses the installation of the home from preparation of the site through the final inspection. It includes tables and figures giving important data for proper installation.

- (2) Careful adherence to this chapter by the homeowner and installation crew, and consultation with a registered engineer in those unusual circumstances it does not cover, will help ensure the homeowner of a well-built, safe, and affordable home for many years to come.

§ 156-3 Pre-installation considerations.

- A. Prior to locating or relocating a manufactured home, Kent County shall be contacted for installation procedures.
- B. For private property, installation zoning or development covenants may apply and should also be taken into consideration.

§ 156-4 Alterations. Prior to altering a home, e.g., modifying the electrical, plumbing, or heating and cooling systems; adding a room, carport or garage; or making major repairs such as replacing a roof, the homeowner shall contact Kent County. Any structural changes or additions to the home will require a building permit and construction to meet the provisions of the International Residential Code, referred to as the Kent County Building Code.

**Article II
Definitions**

§ 156-5 Definitions.

As used in this chapter, the following shall have the meanings indicated.

ACCESSORY BUILDING OR STRUCTURE, MANUFACTURED HOME: A building or structure that is an addition to or supplements the facilities provided by a manufactured home. Examples are garages, storage structures, carports, fences, windbreaks or porches.

ANCHORING EQUIPMENT: Straps, cables turnbuckles, and chains, including tensioning devices, which are used with ties to secure a manufactured home to ground anchors.

ANCHORING SYSTEM: A combination of ties, anchoring equipment and ground anchors that will, when properly designed and installed, resist the overturning of the home or sideways movement caused by wind.

APPROVED: Acceptable to Kent County. (NOTE: In determining the acceptability of installations or procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NCSBCS/ANSI or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedures, or use. The authority having jurisdiction may also refer to the listing or labeling practices of an organization concerned with product evaluations that is in a position to determine compliance with appropriate standards for current production of listed items.)

CONSTRUCTION ALTERATION: The replacement, addition, modification, or removal of any equipment or installation that may affect the originally approved design of construction, plumbing, heating, cooling, fuel-burning, or electrical system.

DIAGONAL TIE: A tie intended to resist horizontal or shear forces and to resist vertical uplift and overturning forces.

DWELLING UNIT: One or more habitable rooms that are designed to be occupied by one family, with facilities for living, sleeping, cooking, eating, and sanitation.

FOOTING: The part of the support system that sits directly on the ground at, below, or partly below grade to support the piers.

FOUNDATION, MANUFACTURED HOME: A site-built or site-assembled system of stabilizing devices that is:

- A. Capable of transferring design dead loads and lateral and vertical live loads, as required by the Manufactured Homes Procedural and Enforcement Regulations, and other design loads unique to local home sites that result from wind and water conditions, or that are imposed by or upon the structure, into the underlying soil or bedrock without failure.
- B. Placed at an adequate depth, or otherwise adequately designed, to prevent frost damage.
- C. Constructed of materials acceptable to Kent County.

FRAME, MAIN: The part of the structural system that is normally used to transfer home design loads to the ground.

GROUND ANCHOR: A device placed at the manufactured home stand designed to transfer home anchoring loads to the ground.

INSTALLATION: Assembly, at the site of occupancy, of all portions of the manufactured home, connection of the home to existing utility connections, and installation of support or anchoring systems.

INSTALLATION ALTERATION: The replacement, addition, modification, or removal of any components of the required ground support or ground anchoring system.

INSTALLATION INSTRUCTIONS: Instructions provided by the manufacturer that accompany each manufactured home and detail the manufacturer's requirements for ground support, anchoring systems, and other work completed on site.

LABELED: Equipment or materials that have been affixed with a label, symbol, or other identifying mark of an organization that is acceptable to Kent County; that is concerned with the product evaluation; that maintains periodic inspection or production of labeled equipment or materials; and that provides labels, the use of which indicates a manufacturer's compliance with appropriate standards or performance in an a specified manner.

LISTED: Equipment or materials included in a list that is published by an organization acceptable to Kent County; that is concerned with product evaluation; that maintains periodic inspection of production of listed equipment or materials; and that produces listings that state either that the equipment or materials meet appropriate standards or have tested and found suitable for use in a specific matter.

MANUFACTURED HOME: A structure, transportable in one or more sections, that in its traveling mode is eight body feet or more in width or 40 body feet or more in length or, when erected on site, is 320 square feet; that is built on a permanent chassis; that is designed to be used as a dwelling; that may or may not have a permanent foundation; that is connected to the required utilities; and that contains the plumbing, heating, air conditioning, and electrical systems; except that such term shall include any structure that meets the size requirements and for which the manufacturer has voluntarily filed a certification required by the Secretary of HUD.; and that complies with the MHCSS. (NOTE: This definition should not be interpreted to include any types of recreational vehicles, including so-called "park models" or travel trailers, that may be equal or exceed the body length or width specified herein.)

PIER: That portion of the support system between the footing and the manufactured home, exclusive of shims. Types of piers include, but are not limited to, the following:

- A. Manufactured steel stands.
- B. Pressure-treated wood.
- C. Manufactured concrete stands.
- D. Concrete blocks.

SHALL: Indicates a mandatory requirement.

SHOULD: Indicates a recommendation, or that which is advised but not required.

SITE, MANUFACTURED HOME: A designated parcel of land designed for the accommodation of one manufactured home, its accessory buildings or structures, and accessory equipment, for the exclusive use of the occupants of the home.

SKIRTING: A weather-resistant material used to enclose the space from the bottom of the manufactured home to grade.

STABILIZING DEVICES: All components of the anchoring system, such as piers, footings, ties, anchoring equipment, foundation anchors, or any other materials and methods of construction that support and secure the manufactured home to the ground.

STRUCTURE: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manor.

SUPPORT SYSTEM: A combination of footings, piers and shims that will, when properly installed, support the manufactured home.

TIE: See "ANCHORING EQUIPMENT."

UTILITY CONNECTIONS: The connection of the manufactured home to existing utilities that include, but are not limited to, electricity, water, sewer, gas, or fuel oil.

VERTICAL TIE: A tie intended to resist uplifting and overturning forces.

Article III Site preparation

§ 156-6 Encroachment and site preparation. Kent County laws regarding encroachments in streets, yards, and courts shall be obeyed, and permissible setback distance from property lines and public roads shall be met.

§ 156-7 Issuance of permit. Ensure that all local permits have been obtained and fees paid.

§ 156-8 Soil conditions.

- A. Requirements.** To help prevent settling or sagging, site the home on firm, undisturbed soil or fill compacted to at least 90% of its maximum relative density.
- B. Bearing capacity.** Test the bearing capacity of the soil with a pocket penetrometer or other methods acceptable to Kent County before designing the foundation. If the soil cannot be tested, but its type can be identified, use the foundation bearing pressures shown in Table 3-1 as a guide. If you cannot identify the soil, use a bearing capacity of 1,000 pounds per square foot. Under unusual conditions, or if the soil appears uncompacted fill, consult a local geologist, engineer, or architect.

§ 156-9 Removal of organic material. Removal of all decayable materials, such as grass, roots, twigs, and wood scraps, from beneath the home is required in areas where footings are to be placed to minimize settling of footings and insect damage. Overhanging branches should be removed from the immediate vicinity of the home site to prevent windstorm damage.

§ 156-10 Drainage.

- A. Purpose.** Proper drainage prevents water buildup under the home, which may cause shifting or settling of the foundation, dampness in the home, buckling of walls and floors, and problems with the operation of doors and window.
- B. Elimination of depressions.** Grade the home site to permit water to drain from under the home.
- C. Drainage procedures.** Depending on the local landscape, ditches and culverts may be needed to drain surface runoff. If so, consult a registered engineer.
- D. Gutters and downspouts.** When gutters and downspouts are installed, direct the runoff away from the home.

§ 156-11 Ground moisture control.

- A. Vapor retarders.** If the space under the home is to be enclosed with skirting or other material, a vapor retarder that keeps ground moisture out of the home is recommended.
- B. Acceptable types of ground cover.** Use a minimum of six-mil polyethylene sheeting or its equivalent.
- C. Proper installation.** Cover the entire area under the home with sheeting and overlap it at least 12 inches at all joints.

Article IV Foundations

NOTE: This article only covers foundations. Installation procedures and methods for securing the home to its foundation are discussed in Article V.

§ 156.12 Piers.

- A. Importance.** Proper pier installation is the most important part of home installation. Incorrect size, location, or spacing of piers may cause serious structural damage to the home. It is important to install piers around the perimeter as required. Failure to do so may lead to sagging floors, walls, and roof (see § 156-12 E(3)).
- B. Acceptable types.** Piers may be concrete block, pressure treated wood, having 0.60 retention in accordance with American Wood Preservers Association (AWPA) C22 Standard, or adjustable metal or concrete piers (see Figure 4-1). Manufactured piers shall be listed or labeled for required load capacity.
- C. Design requirements.**

- (1) Load bearing capacity. The load that each pier must carry depends on such factors as the dimensions of the home, the roof live load, the spacing, and the ways the piers are used to support the home. Center beam/marriage wall blocking is required for all multi-section homes. See Tables 4-1 and 4-2 for pier capacities. The tables shall be used when the manufacturer's installation instructions are not readily available. Manufactured piers must be rated at least to these capacities, and locally constructed piers must be designed to transmit these loads safely (see subsection C(2) below).
- (2) Configuration.
 - (a) Figure 4-1 shows the recommended arrangement of concrete block piers constructed on site. Load-bearing (not decorative) concrete blocks should have dimensions of at least eight (8) inches by eight (8) inches by sixteen (16) inches, and must be stacked with their hollow cells aligned vertically. When piers are constructed on blocks stacked side by side, each layer should be at right angles to the previous one (see Figure 4-1^{EN}).
 - (b) Cap hollow block piers as shown in Figure 4-1 to distribute the structural load evenly across them. Caps may be of solid masonry at least four inches nominal thickness; hardwood at least two inches nominal thickness; or of steel (see Figure 4-1). All caps shall be of the same length and width as the piers upon which they rest. Avoid using plywood, as it may lead to unwanted settling.
 - (c) Use four (4) inch by six (6) inch hardwood shims to level the home and fill any gaps between the base of the I-beam and the top of the pier cap. Always use shims in pairs (see Figure 4-1). Drive them in tightly so that they do not occupy more than one inch in vertical space. Use hardwood plates no thicker than two (2) inches to fill in any remaining vertical gaps.
 - (d) Select manufactured pier heights so that the adjustable risers do not extend more than three (3) inches when finally positioned.
 - (e) All piers must rest on footings (see § 156-13) that must extend below the frost line (see §156-13B for exceptions to placement) and are placed on either undisturbed soil or compacted fill.
- (3) Clearances under homes. A minimum clearance of 12 inches shall be maintained beneath the lowest member of the main frame (I-beam or channel beam) in the area of utility connections. No more than 25% of the lowest member of the main frame of the home shall be less than 12 inches above grade.

D. Design procedures.

- (1) Piers less than 36 inches high. Piers less than 36 inches high may be constructed of single-, open- or closed-cell concrete blocks, eight (8) inches by eight (8) inches, 16 inches. Install them so that the long sides are at right angles to the supported I-beam (see Figure 4-1). Position open cells at right angles to the footers. Horizontal offsets should not exceed one half (1/2) inch top and bottom. Mortar will not normally be required. Manufactured piers should be listed and labeled.
- (2) Piers 36 inches to 80 inches high and corner piers. Construct all piers between 36 inches and 80 inches high, and all corner piers over three blocks high, out of double interlocked concrete blocks (see Figure 4-1). Mortar will not normally be required.
- (3) Piers over 80 inches high. Where permitted by Kent County, lay blocks in mortar with steel reinforcing bars inserted in the block cells and fill cells with concrete (see Figure 4-1). Where such construction is not permitted by Kent County due to other conditions, piers over 80 inches high shall be designed by a registered engineer.
- (4) Elevated homes. When more than 1/4 of the area of a home is installed so that the bottom of the mainframe members are more than three (3) feet above ground level, the home stabilizing devices shall be designed by a qualified engineer and be approved prior to installation by Kent County.

E. Location and spacing. The location and spacing of piers depend upon the dimensions and width of the home, the roof load zone, the type of construction (single- or multi-section), and such other factors as the location of door or other openings. In general, locate piers no more than two (2) feet from either end, and not more than eight (8) feet center-to-center under the main rails.

- (1) Single-section homes. Figure 4-2^{EN} shows the recommended location and spacing of piers for a single-section home when the manufacturer's installation instructions are not available.

- (2) Multi-section homes. Figure 4-3^{EN} shows the recommended location and spacing of a multi-section home when the manufacturer's installation instructions are not available.
- (3) Perimeter blocking. Place piers on both sides of side wall exterior doors and any side wall door openings greater than four (4) feet, such as entry and sliding glass doors. Piers are also recommended under those locations where heavy pieces of furniture, such as pianos, organs, water beds etc. are to be placed.

§ 156-13 Footings. Footings shall be placed a minimum of 24 inches below grade in undisturbed soil (see Figure 3-2^{EN}). For exceptions see § 156-13B(2) and (3). Support every pier with a properly designed footing (see Subsection A(1) below).

A. Acceptable types of footings.

- (1) Concrete footings may consist of precast or poured-in-place concrete, pads, slabs, or ribbons at least 3 1/2 inches thick, with a twenty-eight-day compressive strength of 3,000 pounds per square inch.
- (2) Pressure-treated permanent wood. Two layers of nominal two-inch thick pressure treated wood having 0.60 retention in accordance with AWPA C22 Standard, with the long dimensions of the second layer placed perpendicular to that of the first, may also be used.
- (3) Other materials. Other materials for footings may be used when approved by Kent County if they provide equal load-bearing capacity and resistance to decay. Examples include:
 - (a) One-half-inch maximum crushed stone.
 - (b) Three-fourths-inch graduated gravel.
 - (c) Coarse sand, with grains no smaller than one-sixteenth-inch, placed so it provides a soil-bearing capacity of at least 3,000 pounds per square inch.

B. Frost Protection.

- (1) Conventional placed footings. Place footings 24 inches below grade (see Figure 3-2). For exceptions see Subsections B(2) and B(3).
- (2) Floating slab systems. When properly designed by a registered professional engineer, a floating slab may be used above the frost line. The design shall accommodate the anchorage requirements identified in Article V.
- (3) Insulated foundations. Footings may also be placed above the frost line when the home is provided foundation or skirting having insulation properties sufficient to prevent freezing of the soil under or adjacent to every load-bearing component of the foundation and acceptable for this purpose to Kent County. Useful design guidelines may be found in the references found in Appendix A.^{EN} Insulation systems should be compatible with the requirement to cross-ventilate the entire space under the home.

C. Proper sizing of footings. Proper sizing of footings depends upon the load-carrying capacity of both the piers and the soil. See Table 4-3 for recommended footing sizes.

§ 156-14. Permanent foundations.

- A. Kent County guidelines for the installation of manufactured homes on permanent foundations include the following requirements:
- (1) Is supported on properly designed and constructed foundation system that is adequate to support all loads as specified in this section.
 - (2) Is anchored adequately to resist all loads and as specified in this chapter.
 - (3) The towing hitch and all running gear have been removed.
 - (4) There is a properly enclosed crawl space or basement with permanent foundation-type construction.
- B. Useful ideas and design guidelines can also be found in reference publications, such as those listed in Appendix A.

§ 156-15 Special considerations. Also see § 156-17C.

Areas prone to flooding.

- (1) Special elevations and anchoring techniques are required when locating a home in an area prone to flooding.
- (2) Installations in flood zones other than velocity (V) zones may be installed using piers as show in Figure 4-4. Other installation designs and all installations in a V zone must be designed by a registered design professional to make sure that the home design and construction conform to applicable federal, state, and local codes and regulations, and that the foundation system will adequately support the imposed loads in a flood situation. The Federal Emergency Management Agency (FEMA) publication listed in Appendix A contains the design and construction recommendations for elevated foundations as well as for connections and anchoring systems to resist flood forces.

Article V Installation Procedures

§ 156-16 Interconnection of multi-section homes.

The following items shall be completed during the interconnection of multi-section homes when the manufacturer's installation instructions are not available.

- A. Provide an air infiltration barrier on the mating edges of the floor, end walls, and ceiling.
- B. If accessible, fasten the roof at the ridge with No. 10 by four-inch screws, at a minimum, at twelve-inch on center, staggered intervals. If the ridge is not accessible use .027 minimum thickness metal straps across the ridge to connect each of the opposing structural members.
- C. Secure end walls with No. 10 by four-inch wood screws, at a minimum, at six-inch, on center, staggered intervals. Fasten floors together at the mating line with No. 10 by four-inch wood screws, at a minimum, at twelve-inch, on center, staggered intervals.
- D. Mating walls shall be firestopped in accordance with the MHCSS.

Normal Home Installations (Single- or Multi-section Homes)

Types of Foundation, Main Components.

PIER-GROUND ANCHORS: The manufactured home rests on piers of concrete block; formed-in-place concrete; permanent wood; or steel pedestals on permanent wood, crushed stone or concrete footers. The ground anchors in the soil are angled to resist straps or are embedded in dead-men in the soil. Straps are tied to the frame, with or without over-the-top straps.

CONCRETE SLAB OR CONTINUOUS FOOTINGS: The manufactured home rests on a concrete slab or ribbons of concrete. The straps are tied into the frame and the perimeter footers, or concrete slab.

PILE/POST SYSTEM: The manufactured home rests on piles or posts placed sufficiently deep in the ground to resist all wind, snow, and earthquake forces. Straps fastened the home to the piles, posts, or to cap placed thereon.

CONCRETE, CONCRETE BLOCK, OR WOOD FOUNDATIONS, LOAD-BEARING, PERIMETER FOUNDATIONS: The manufactured home rests on exterior load-bearing walls that sit on concrete or gravel footings. Straps fasten the home to the walls to resist all external forces.

§ 156-17 Anchoring instructions.

After blocking and leveling, the installer should secure the manufactured home against the wind. The type of installation is the determining factor in deciding how this should be done, as is described in the following sections.

- A. **Normal installations.** §156-16 summarizes and defines the types of normal installations. The pier-and-ground-anchor system, as provided in this chapter, is most common. When using another type of installation, consult a registered engineer. (NOTE: The anchoring or foundation system shall be capable of meeting the loads required by the MHCSS.)

- (1) Number and location of anchors. The number and location of straps and anchors is determined by the size of the home. The anchors shall be spaced not more than two feet zero inches from each end of the home and not more

than 11 feet zero inches apart unless the anchor manufacturer specifies a greater spacing. Use either the single- or double-strap method. Use only approved ground anchors capable of resisting at least 4,725 pounds.

- (2) Installation of anchors. The following is one example: Install the anchors at the locations selected in Figure 5-2 when the home manufacturer's installation instructions are not available. Follow the anchor manufacturer's instructions. Use single-headed anchors at all "frame-tie-only" locations when using the single-strap method, and double-headed anchors when employing the double-strap method. Install single- or double-header anchors at all over-the-roof tie locations. When using a single strap, line up the shaft of each anchor with its strap (see Figure 5-3). When connecting more than one strap to a single anchor, line the shaft of the anchor with the results achieved by calculating the combined forces (see Figure 5-4). The ground anchors must be sized for the direction of the load and the type of soil. See Figure 5-3 and 5-4 for additional information of the installation of anchors and tiedowns.

B. Over-the-roof straps. If over-the-roof straps are provided with the home, they must be installed.

C. Severe climate conditions.

- (1) Freezing. Be sure anchors are installed 24 inches below grade. During periods of frost heave, be prepared to lessen tension on the straps.
- (2) Areas prone to flooding. Foundation considerations are discussed in § 156-15A and FEMA document referenced in Appendix A. Unconventional anchorage and tie-downs often are needed in designing and constructing and special elevated foundations required in areas prone to flooding. Consult an engineer and the Kent County Division of Inspections and Enforcement for guidance.

§ 156-18 Porches.

Site-constructed porches must be constructed and inspected according to the International Building Code and International Residential Code adopted by Kent County.

§ 156-19 Steps and stairways.

A. Steps and stairways.

- (1) When risers are closed, all treads may have a uniform projection not more than 1 1/2 inches.
- (2) The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. The greatest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch.
- (3) Stairways shall not be less than three (3) feet in clear width, with a maximum rise of 8 1/4 inches and a minimum tread run of nine (9) inches.

B. Handrails and guardrails.

- (1) Handrails. Handrails having a minimum and maximum height of 34 inches (863.6 mm) inches and 38 inches (965.2 mm), respectively, measured vertically from the nosing of the treads, shall be on at least one side of stairs of three or more risers. The handgrip portion of the handrails shall not be more than 2 5/8 inches in cross-sectional dimension or the shape shall provide equivalent gripping surface. The handgrip portion of the handrails shall have a smooth surface with no sharp corners. The handrail projecting from the wall shall have not less than 1 1/2 inches between the wall and the handrail.
- (2) Guardrails. Porches or decks located more than 30 inches above the floor or grade below shall have guardrails not less than 36 inches in height. Open sides of stairways with a total rise of more than 30 inches above the floor or grade below shall have guardrails not less than 34 inches in height and not more than 38 inches measured vertically from the nosing of the treads. Required guardrails on open sides of stairways, raised floor areas, porches, and decks shall have intermediate rails or ornamental enclosures, which will not allow the passage of an object six inches or more in diameter. Required guards shall not have openings from the walking surface to the required guard height, which allow passage of a sphere four (4) inches (102 mm) in diameter.

Exceptions:

1. The triangular openings at the open side of a stairway, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153 mm) in diameter.

2. Guards on the open side of stairs shall not have openings that allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

§ 156-20 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway. The minimum width perpendicular to the direction of travel shall be no less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the minimum depth in the direction of travel shall be not less than 36 inches (914 mm).

§ 156-21 Expanding rooms. Install expanding rooms in accordance with the manufacturer's instructions. When the manufacturer's instructions are not available, perimeter blocking shall be installed in accordance with Table 4-1; ground anchors shall be installed in accordance with Figure 5-2.

Article VI Installation of Skirting

§ 156-22 Skirting and permanent perimeter enclosures.

A. Skirting and permanent perimeter enclosures will be installed within 30 days of placement of the manufactured home. Skirting, if used, shall be durable materials suitable for exterior exposures. Skirting must not be attached in a manner that can cause water to be trapped between the siding and trim to which it is attached. The skirting should be recessed under the siding or trim. The building code does not permit wood, including lumber and all wood siding used for skirting, to be used within six (6) inches of the ground unless it is pressure treated to prevent decay and termite infestation.

- B. The space beneath the home shall be provided with a sufficient number of ventilation openings to ensure ample ventilation. The total net area of ventilation openings must be a minimum of one square foot for every 150 square foot of the home's floor area. One ventilation opening shall be within three feet of each corner of the home. When a uniform six-mil polyethylene sheet material or other acceptable vapor barrier is installed on the ground beneath the home to further reduce moisture, the total net area of the ventilation openings may be reduced to one square foot for each 1,500 square foot of the home's floor area.
- C. Access openings not less than 18 inches in any dimension and not less than three square feet in any area shall be provided and shall be located so that any water supply and sewer drain connections located under home are accessible for inspection.
- D. Dryer vents, air-conditioning condensation drains, and combustion air inlets must pass through the skirting to the outside.

Appendix A
BIBLIOGRAPHY, REFERENCED STANDARDS

ASCE 7- 1998, "Minimum Design Loads for Buildings and Other Structures," American Society of Engineering, 1430 Broadway, New York, NY 10018

FEMA 85, "Manufactured Home Installation in Flood Hazard Areas," Federal Emergency Management Agency, Washington, DC 20472

HUD Handbook 4930.3 (1989), "Permanent Foundations Guide for Manufactured Housing," U.S. Department of Housing and Urban Development, 451 7th Street, SW, Washington, DC 20410

NCSBCS/ANSI 225.1—1994, American National Standard, Manufactured Home Installations" National Conference of States on Building Codes and Standards Inc., 505 Huntmar Park Drive, Suite 210, Herndon, Virginia 22070

"Permanent Wood Foundation Systems—Design, Fabrication, and Installation Manual—1987," National Forest Products Association (NFPA), 1250 Connecticut Avenue, Washington, DC 20036

"Frost Free Shallow Foundation Design Guidelines," Energy Design Update, March 1988

"Building Foundation Design Guidebook," Doc. No. DE88013350, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161

**Appendix C
DIAGRAMS**

Table 3-1 General Description of Soils

Soil Type Based on unified classification system	Allowable Pressure (pounds per square foot) No allowances made for overburden pressure, embedment depth, water table height or settlement problems
Rock or hardpan	4,000 and up
Sandy gravel and gravel	3,000
Sand, silty sand, clay, gravel, or clayey gravel	2,000
Clay, sandy clay or clayey silt	1,500
Uncompressed fill	Special analysis is required
Peat or organic clays	Special analysis is required

NOTE:

1. To be used only when none of the following is available: soils investigation and analysis of the site; compliance with local building code; and evaluation by a registered professional engineer, architect, or building official.
2. Hereafter, the words "engineer" or "architect" shall refer to a professional engineer or architect.

Table 4-1 Minimum Pier Capacity Frame Plus Perimeter Blocking

Section Width (feet)	Roof Live Load (pounds per sq ft)	Pier Location	Minimum Pier Capacity (pounds)			
			Maximum Pier Spacing (feet)			
			4	6	8	10
8	20	Frame Perimeter	800 600	1300 800	1800 1100	2200 1400
10	20	Frame Perimeter	1100 700	1700 1100	2200 1400	2800 1800
12	20	Frame Perimeter	1300 800	1800 1200	2600 1800	3200 2000
14	20	Frame Perimeter	1600 800	2200 1400	3000 1800	3700 2400
16	20	Frame Perimeter	1700 1100	2600 1800	3400 2200	4300 2700
18	20	Frame Perimeter	1900 1200	2900 1800	3800 2500	4800 3100

Table 4-2 Minimum Pier Capacity Multi-Section Center-Beam Blocking

Section Width (pounds)	Roof Live Load (pounds per sq ft)	Pier Load and Minimum Pier Capacity (pounds)						
		Mating Wall Opening (feet)						
		5	10	15	20	25	30	35
8	20	600	1200	1800	2400	3000	3600	4200
10	20	800	1500	2300	300	3800	4500	5300
12	20	900	1800	2800	3500	440	5300	6100
14	20	100	2000	300	4100	5100	6100	7100
16	20	1200	2300	3500	4700	5800	700	8100

TABLE 4-3 Footing Size^{1,2}

Pier Capacity (Pounds)	Minimum Footing Size or Equal Area (inches)			
	Soil Capacity			
	1000 psi ²	1500 ps ^{1,2}	2000 psi ²	4000 psi ²
600	9 x 9	8 x 8	7 x 7	5 x 5
800	11 x 11	9 x 9	8 x 8	5 x 5
1000	12 x 12	10 x 10	8 x 8	6 x 6
1500	15 x 15	12 x 12	10 x 10	7 x 7
2000	17 x 17	14 x 14	12 x 12	8 x 8
2500	19 x 19	15 x 15	13 x 13	10 x 10
3000	21 x 21	17 x 17	15 x 15	11 x 11
3500	22 x 22	18 x 18	16 x 16	12 x 12
4000	24 x 24	20 x 20	17 x 17	13 x 13
4500	25 x 25	21 x 21	18 x 18	13 x 13
5000	27 x 27	22 x 22	19 x 19	14 x 14
5500	28 x 28	23 x 23	20 x 20	15 x 15
6000	29 x 29	24 x 24	21 x 21	15 x 15
6500	31 x 31	25 x 25	22 x 22	16 x 16
7000	32 x 32	26 x 26	22 x 22	16 x 16
7500	33 x 33	27 x 27	23 x 23	17 x 17
8000	34 x 34	28 x 28	24 x 24	17 x 17
8500	35 x 35	29 x 29	25 x 25	18 x 18
9000	36 x 36	29 x 29	25 x 25	19 x 19
10000	38 x 38	31 x 31	27 x 27	20 x 20
11000	40 x 40	32 x 32	28 x 28	21 x 21
12000	42 x 42	34 x 34	29 x 29	22 x 22
13000	43 x 43	35 x 35	31 x 31	22 x 22
14000	45 x 45	37 x 37	32 x 32	23 x 23
15000	46 x 46	38 x 38	33 x 33	24 x 24
16000	48 x 48	39 x 39	34 x 34	25 x 25
17000	49 x 49	40 x 40	35 x 35	25 x 25
18000	51 x 51	42 x 42	36 x 36	26 x 26
19000	52 x 52	43 x 43	37 x 37	

1. The footing sizes shown are for square pads & are based on the area (sq. in.) required for the load. Other footing configurations, such as a rectangular configuration, may be used, provided the area (sq. in.) is equal to or greater than the area of the square footing shown in table. For example, a 12 inch x 22 inch (264 sq. in.) footing may be used in place of a 16 x 16 (256 sq. in.) footing. Also, two 12 x 24 pads may be used in place of one 24 x 24 pad.
2. Local Regulations may require design verification by an engineer.