

Manufactured Housing Consensus Committee

NFPA 1 Batterymarch Park Quincy, MA 02269
Phone: + 1(617) 984-7507 Fax: +1 (617) 984-7110 www.nfpa.org

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
1	GENERAL COMMENT	<p>R.VOGT The MHCC, as an advisory committee, was charged by “The Act of 2000” to develop a standard for the installation of manufactured homes for states in which no installation standard exist. The MHCC developed a standard and presented it to HUD. On April 26, 2005, HUD published the proposed Model Manufactured Home Installation Standard, 24 CFR 3280 and 3285. During discussions at the MHCC meetings during April 26 through 28, MHCC members discussed several items about the installation standard.</p> <p>One of the main issues that I remember was that MHCC members were to comment back to MHCC on main items or concerns with the proposed standard by May 13, 2005, not individual items as outlined in NFPA e-mail memo and attachments received on May 6, 2005. The attachments sent with the NFPA e-mail memo will be a great asset for comments to be submitted to HUD on or before the closing date of June 27, 2005, by persons responding to the Federal Register notice for individual items of the installation standard.</p> <p>As for my general comments at this time the following should be considered.</p> <ol style="list-style-type: none"> 1. HUD did send a letter dated March 8, 2005, to NFPA for distribution to MHCC members, outlining items of concern that HUD had with the draft installation standard submitted by MHCC. However, I believe that HUD should send a documented description to address each section of the standard they changed or deleted from the draft. The description should include section and reason for change or deletion. 2. Model Installation Standard should remain as a separate part CFR 3285 and not be included in the 3280 Construction and Safety Standards. There is more than one reason to keep the document separate as 3285. <ol style="list-style-type: none"> a. HUD in the default non-SAA states will use the Model Installation Standard. However, some states that already have installation programs or in states that have no state jurisdiction some cities/municipalities may wish to adopt the Model Installation Standard. It would be difficult for a state or city/municipality to adopt the standard if it is rolled into the Construction and Safety Standards 3280. b. Construction and Safety Standards CFR 3280 is a preemptive standard that no state or political sub-division may change. If the Model Installation Standard CFR

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		<p>3285, which is <u>not</u> preemptive, is not kept separate and is part of 3280, it will cause confusion if a state or city/municipality wishes to adopt the Model Installation Standard and then wishes to amend certain sections (i.e. frost depth to state guidelines) of the installation standard. Please be reminded that “The Act of 2000” clearly states that state or manufacturer may use more stringent requirements than the Model Installation Standard. Civil courts with jurisdiction may have problems with a preemptive standard combined with a standard that is not preemptive and determine that neither is what law intended and find the rules have no basis.</p> <p>The Minnesota Building Codes and Standards Division will be responding on individual items of concern with the proposed Model Installation Standard CFR 3285.</p> <p>Respectfully, MINNESOTA BUILDING CODES & STANDARDS DIVISION</p>
	<p>1</p> <p>GENERAL COMMENT</p>	<p>W. LAGANO. The following comments are being forwarded in accord with the discussion at the April 2005 MHCC meeting in Washington.</p> <p>I do not believe that the intent of the MHIA 2000 was to create a new code for the Installation standards. HUD' s rationale for the proposed codification of the Model Installation Standards to 3285 does not match the rationale of the MHCC. In my view, installation standards are synonymous with construction and safety standards. I feel the installation standards should become a part of 3280.</p> <p>Second, the codification of the standards outside 3280 appears to not subject the standards to the MHIA' s preemption provision. For the past two and a half years, the MHCC was operating under the assumption that the Model Standards would be the only program in default states. To allow localities in a default state to impose local standards that exceed the federal model should not be allowed to occur. The issue of federal preemption must be exercised judiciously, but all states have had a five- year notice to implement installation standards and the other requirements of MHIA 2000, or be subject to the federal installation standards. To now allow default states to impose guidelines that exceed the federal standard defeats any attempt to have a particular state assume its responsibility and implement a program of its own. Second, monitoring such a program would be very complicated and third, the cost to monitor compliance with standards will increase HUD' s expenses.</p>
<p>1</p>		<p>M. CONTE Among other concerns, I am still very concerned with the lack of a definition of</p>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
	<p>GENERAL COMMENT</p>	<p>“installer”. Failing to define this term will prove to be very problematic. Also, as this Model Installation Standard is very prescriptive in nature, while the Manufactured Home Construction and Safety Standards are performance based; coordination between the installation and construction standards is essential for the successful performance of the home. No requirement for such coordination exists in the model standards. In fact, the model repeatedly encourages Professional Engineers or Registered Architects to design critical support and stabilization features for the home.</p> <p>If the desired outcome of this model installation standard is to facilitate affordability of manufactured housing and encourage innovative and cost effective construction techniques, this will not be realized.</p> <p>If the desired outcome of this model installation standard is to further distance the manufacturers from responsibility for the performance of the homes, this has been achieved.</p>
<p>21499</p>	<p>I. Summary of HUD’s Model Manufactured Home Installation Standards (first paragraph – first column)</p>	<p>A. MAJOR ‘HUD proposes to codify the Model Installation Standards in a new part 3285 of title 24 of the Code of Federal Regulations (CFR). HUD has chosen not to codify these installation standards as part of the Construction and Safety Standards (24 CFR part 3280), to avoid confusion between construction and installation and to assist in assigning clear lines of responsibility among the parties involved for construction versus installation issues.’</p> <p>Fully concur with the Department’s position of separation into two standards to avoid confusion between that of construction (24CFR3280) and installation (24CFR3285).</p>
<p>21499</p>	<p>1 I. Summary of HUD’s Model Manufactured Home Installation Standards (first paragraph – third column)</p>	<p>A. MAJOR ‘Since close-up consists of the work and activities for completing the assembly of the home, is it consistent with the rest of the Act to consider such work as construction and therefore the responsibility of the manufacturer? Or is it too difficult for manufacturers to control and monitor the close-up done by installers so that it would be more appropriate to classify close up as part of installation? Will consumers be adequately protected if close-up is classified as part of installation?’</p> <p>A clear delineation between construction (24CFR3280) ... the manufacturing process and installation (24CFR3285) ... the work activities facilitating the placement of the home for occupancy by the consumer must be clearly maintain. It is unreasonable to expect and/or hold the manufacturers totally responsible for the close-up work performed by others outside of their control and/or monitoring except for those parties that are duly authorized and/or licensed agents thereof. Thus due to the numerous possible scenarios of parties that could be involved between the two processes, close-up which is an integral part of the installation, should be maintained in the installation standard. Consumers should be adequately protected as long as the balance of the installation program ... the inspection process is fully implemented.</p>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21499	1 I. Summary	<p>D. ROBERTS. Act makes clear distinction between the Federal Manufactured Home Construction and Safety Standards and the Model Installation Standards.</p> <p>Comment: This interpretation has caused the model standards in the proposed rule to have significant problems.</p>
21499	1 I. Summary	<p>D. ROBERTS. The proposed installation standard seems to have lost the concept in Section 605 (a) of the act where it states "A manufacturer shall provide with each manufactured home design and installation instructions for the installation of the manufactured home that have been approved by a design approval inspection agency.</p> <p>Comment: The MHCC proposed installation standards recognized three conditions where manufacturers were required to provide specifics: "1. Items not covered by this standard, 2. Where the manufacturer s approved installation instructions provide a specific method of performing a specific operation or assembly and 3. Where the manufacturer s instructions exceed this standard"</p>
21499	1	<p>M. ZIEMAN Starting at Column 1, Last Paragraph: HUD is soliciting comments on the distinction between standards for the construction and assembly of MHs and the standards for the installation of MHs. In their solicitation they make several statements which I question. Specifically they state that they in the past (implies currently as well) consider certain onsite work performed on multi-wides, such as close-up, to be "construction" governed by the MHCSS and for which the home manufacturer is responsible. I do not believe this has been consistently true nor do I believe it should be. HUD goes on to state the close up activities in general are not covered by in the installations programs of those states who currently have such program. I also believe this statement not to be true. The MHCC should comment accordingly.</p> <p>Lastly, the MHCC should comment that close up activities should be regulated under this installation standard and should no be considered "construction" under the MHCSS and for which the manufacturer is responsible and that consumers will not only be protected but better protect under such a regulatory scheme.</p>
21499	<p>Summary - Part 3285 Model Manufactured Home Installation Standards Subpart B - Pre-Installation Considerations (third column)</p>	<p>A. MAJOR <i>'Should the Model Installation Standards attempt to set forth minimum installation requirements or pre-installation considerations to address seismic safety? If so, how should HUD establish seismic zones and what minimum requirements would be included in the Model Installation Standards?'</i></p> <p>Most a surely the Model Installation Standards should establish some minimum requirements / pre-installation considerations to address seismic safety. However I do not believe that HUD should re-create the wheel by establishing seismic zones that are already defined creating further confusion.</p>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21500		M. ZIEMAN Column 3, Paragraph 1: In reply to HUD's question the MHCC should comment that these installation instruction should not attempt to set forth requirements related to seismic. Seismic requirements are better regulated at the local level
21501		M. ZIEMAN Column 1, Paragraph 3: In reply to HUD's question the MHCC should comment that further limitation on voids and tears in the ground vapor barrier (retarder) are not needed. The current wording in the standards which uses the term "minor" is adequate for this aspect of installation.
21501		M. ZIEMAN , Column 3, Paragraph 2: In reply to HUD's question the MHCC should comment that HUD should not be concerned with specific requirements to be included in a "nationally recognized" protocol for testing alternate foundation systems and HUD should allow the MHCC to address this issue which they plan on taking up once the Ground Anchor Test Protocol is completed. Further the MHCC should point out in comment that there is no definition for the term "nationally recognized" and that there is a defacto national recognized protocol in use today which has be used to evaluate most of the alternation systems on the market currently.
21501	Summary - Part 3285 Model Manufactured Home Installation Standards Subpart C - Site Preparation (second paragraph - first column)	A. MAJOR 'The Model Installation Standards would also provide for minimum vapor barrier material requirements and proper installation techniques. The requirements for vapor barrier installation permit minor voids and tears without repair. However, HUD is concerned that the excessive voids and numerous tears can defeat the purpose of the requirement. Therefore, should limitations be placed on the number and size of voids and tears? If so, what specific limitations would be recommended?' Allowing any tears and/or voids in the vapor barrier installation would defeat the purpose of the requirement and hence NO special limitations should either be recommended or allowed. An effective vapor barrier must be fully sealed to maintain it's integrity and functionally.
21501	Summary - Part 3285 Model Manufactured Home Installation Standards Subpart D – Foundations (second paragraph - second column)	A. MAJOR <i>'Do the Model Installation Standards need to include clearer performance equivalents so that alternative installation methods may be developed and subsequently approved or certified by Design Approval Primary Inspection Agencies (DAPIAs) or registered engineers or architects, as applicable?'</i> <i>Yes.</i>
21503		M. ZIEMAN Column 1, Paragraph 1: In reply to HUD's question on specific criteria that should be included in a testing protocol for anchor assemblies the MHCC should comment that HUD should use the protocol currently under development by our Installation Subcommittee once it has been approved by the full MHCC.
21506	Applicability	D. ROBERTS. The proposed rule removed the references to recreational vehicles and park trailers that was in the MHCC section 1.3.2 and 1.3.

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		<p>Comment: This has lost the recognition that some Park trailers are also built as manufactured homes and have to meet manufactured home construction and consequently installation requirements.</p>
21506		<p>D. ROBERTS. The proposed rule dropped out segments of the MHCC standards that dealt with finishing the construction of the home on site such as using vapor barrier paint if required by the manufacturer and/or how to finish tape and texture.</p> <p>Comment: The description of close up of multi-section homes is too narrow and leaves out the reality that more work goes on that just the connection of utilities and sealing of the units at the mate line. These requirements in the MHCC proposal need to be restored.</p>
21509		<p>M. ZIEMAN Column 1, Paragraph 4: In reply to HUD's question the MHCC should reply NO. HUD should not require the manufacture to provide a specific design for a perimeter or permanent foundation system. Designs for these conditions are highly dependent on local conditions including soils. And this is already adequately covered elsewhere in the standard.</p>
21509		<p>M. ZIEMAN Column 3, Paragraph 1: In reply to HUD's question the MHCC should reply NO.</p>
21511	Column 3	<p>M. ZIEMAN Mate-line anchorage: In reply to HUD's question nothing new needs to be added. Mate-line anchorage requirements are design (manufacturer) depended and if required to resist the loads specified in the MHCSS they are already required to be identified in the manufacturer's installation instruction.</p>
21511 21538	3285.315(b)	<p>M. ZIEMAN The MHCC language on Ramadas is much preferred to what HUD has proposed. For one thing HUD's language needlessly limits the use of ramadas to areas where the snow load exceeds 40 psf. Why couldn't a ramada be used on a home with a 20 psf roof where the snow load is 30 psf? Also, the MHCC language of "self supporting" is much clearer as to the intent than is HUD's language.</p>
21517	3285	<p>D. ROBERTS. Through out document the proposed model standard uses the phrase "must be prepared by a registered professional engineer or a registered architect in accordance with acceptable engineering practice.</p> <p>Comment: This statement has four problems. First, .the statement seems to require manufacturer's staff to be registered PE' s or architects, Second unless the PE or Architect is familiar with the design and construction of manufactured homes they may apply "acceptable engineering for site built residential construction" to manufactured homes Third,, registered in what state? State of manufacture or installation, and Fourth. Requiring PE' s or architects to do as much as the proposed installation standards seems to require for every installation rather than having the manufacturer provide drives up the cost of the installation significantly.</p>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21518	3285.1 (a)(3)	D. ROBERTS Add new sentence – “Approved Manufacturer’s installation instructions that meet approved state installation standards where appropriate, or these standards must be followed for manufactured home installation.”
21518	3285.1 (c) (3)	D. ROBERTS Delete – 2 nd sentence that allows, in default states , cities, and counties to adopt their own more stringent standards.
21518	3285.1 (c) (2) State installation standards	D. GORMAN The sec. Will permit more stringent standards...etc. Problem: One tiny improvement such as increasing the roof load requirement and that town or country has its own installation standard and this 3285 is out of that jurisdiction. Towns can use this as restrictive measures to eliminate MH’s from that town without dealing with the method of construction. Additionally, how many “new” installation codes will this generate for installers and manufacturers? Will HUD review them all and decide if they are proper? Some relief may be given by the 3285.5 Definitions “Installation Code” The first word is “reasonable” Who will apply “reasonable?” to all these new codes. Or to 3285 for that matter. As has been stated: “Why do you want the HUD installation code to be “improved upon” by many hundreds of municipalities who don’t know what they are doing,” If they need more roof load let them justify it to HUD, there are procedures for that.
21518	3285.1 (a)(2)	D. ROBERTS. Delete “these Model Installation Standards” and insert “the manufacturer’s approved installation instructions” serve as the ...and add new sentence “Where no approved manufacturer instructions are available these Model Instruction Standards serve as the standards for manufactured home installation.
21518	3285.1 Administration. (d) <i>Applicability.</i> Subpart A - General	A. MAJOR <i>‘(d) Applicability. The manufactured homes covered by this standard must comply with requirements of the U.S. Department of Housing and Urban Development’s (HUD’s) Federal Manufactured Home Construction and Safety Standards (MHCSS) Program, as set forth in 24 CFR part 3280, Manufactured Home Construction and Safety Standards, and 24 CFR part 3282, Manufactured Home Procedural and Enforcement Regulations. The requirements of this part do not apply to homes installed on site-built permanent foundations when the manufacturer certifies the home in accordance with § 3282.12 of this chapter.’</i> The applicability of many parts of the standard should still apply even to site-built permanent foundation installations. The only portion that could be considered waived would be that of § 3285.203 Drainage, § 3285.204 Ground moisture control, and Subpart D – Foundations, except for § 3285.314 Permanent foundations.
21518	3285.1 (a)	D. ROBERTS Joining of all sections is assembly or construction
21518	3285.1 (a)	D. ROBERTS Need to re-insert MHCC Recommendations that manufacture instructions shall apply under 3 conditions.
21518	3285.1 (a)	D. ROBERTS Need to re-insert MHCC Recommendations that installation standards do not apply to RV’s but do apply to park trailers built to park trailer <u>and</u> MHCC construction.

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21518	3285.2 Manufacturer installation instructions.	N. TOMASBI Revise the last sentence to read: Installers must follow the DAPIA-approved manufacturer's installation instructions for the aspects not covered by these Model Installation Standards. I believe adding the "not" clarifies when the manufacturer's installation should be used.
21518	3285.2 Manufacturer installation instructions. (the last sentence of the paragraph) Subpart A - General	A. MAJOR '... Installers must follow the DAPIA-approved manufacturer's installation instructions for those aspects covered by these Model Installation Standards.' Is this statement to mean that the manufacturer's installation instructions are to supersede either state and/or local installation instructions and / or rules?
21518	3285.2	D. ROBERTS Last sentence: put period after instructions and delete rest of sentence.
21518	3285.2	D. ROBERTS. Manufacturer Installation instructions. Comment: The requirement on the installer seems to be only for the requirements specifically covered by the proposed model installation standards and does not have the installer responsible for complying with the other aspects of the manufacturer s installation instructions or any .aspects designed by a PE or architect.
21518	3285.2	M. ZIEMAN Delete the word design in the first sentence. The term as used is overly broad and could be construed to include the entire DAPIA approval design package. The term is not need.
21518	3285.3 Alterations during initial installation. (the first sentence of the paragraph)	A. MAJOR 'Additions, modifications, or replacement or removal of any equipment that affects the installation of the home, made by the manufacturer, retailer or installer prior to completion of the installation by an installer must equal or exceed the protections and requirements of these Model Installation Standards, the MHCSS (24 CFR part 3280) and the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282).' While theoretically, on paper this emerges to be good. Who exactly will be insuring that this requirement is met and sustained? Is this to be expected of the LAHJ during inspection of the installation of the home? Who will insure that LAHJ or other parties will be fully trained upon the Model Installation Standards, the MHCSS (24 CFR part 3280) and the Manufactured Home Procedural and Enforcement Regulations (23 CFR part 3282) ... especially in locations where there is no SAA or a HUD approved state program?
21518	3285.3	D. ROBERTS Alterations, as defined in 3285.7...foundation then delete "without design...thru or being" and then insert "and must be" in front of expressly
21518	3285.4	D. ROBERTS Add references to NFPA 1192 (RV's) and ANSI A11905 Park Trailer
21519	3285.1 Definitions	M. CONTE A definition of "installer" is a critical omission. An installer may be one person or several separate entities. To avoid confusion, especially in light of the requirements levied on the "installer" this should party should be defined in this standard.

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21519	3285.5 Definitions Installation Instructions	D. GORMAN Strike: that accompany. Insert: for To allow for additional information to be provided by the manufacturer that may go beyond the one way to install the home described in the typical instructions.
21519	3285.5 Definitions Installation Instructions	M. CONTE Strike: that accompany. Insert: for To allow for additional information to be provided by the manufacturer that may go beyond the one way to install the home described in the typical instructions.
21520	3285.202(a)(1)	D. ROBERTS after soil tests: delete rest of sentence and insert MHCC Recommendation “A pocket penetrometer or method acceptable to the Secretary shall be permitted to be used.”
21520	3285.102 Design zone maps.	A. MAJOR <i>The design zone maps are those identified in part 3280 of this chapter. (a) Wind zone. ... (b) Roof load zone. ... (c) Thermal zone. ...</i> Should not the referenced design zone maps identified in part 3280 also be included within this document as well? Since installer might be required to follow specifics of this document in absence of the manufacturer’s installation manual or the absence of state and/or local rules / regulations governing the installation.
21520	3285.201 (a) Soil classifications and bearing capacity.	D. GORMAN “soil must be determined by.” And then the charts. It does say that you can use “generally accepted engineering practice” Who gets to make the call if a Pocket penetrometer is “generally accepted?” By not specifically mentioning it we leave only the choices on the following chart and they are very time and money consuming. Pocket penetrometers are cheap, easy to use, and can be done on the exact site where the home is going on the day it goes there. Nearly every manual in the industry mentions them so why not put it here. The equipment for the “blow count method” listed in the chart had a cost of \$3000 in 1990.
21520	3285.201 Soil conditions.	A. MAJOR ‘ ... All organic material subject to decay, such as grass, roots, twigs, and wood scraps must be removed in areas where footings are to be placed.’ All organic materials should be removed from the entire area underneath the proposed home site. Any organic materials left can result and cause other determinable effects to support systems and anchorage of the home.
21521	3285.202(b)	D. ROBERTS Delete “and a Report provided”
21522	3285.203(f) Site Preparation Gutters and Downspouts	D. GORMAN Instruction must be added to prohibit gutter attachment that could damage the home. Such as using spikes and ferrules through 1X fascia boards and into roof trusses. I suggest prohibiting spike and ferrule application of gutters.
21522	3285.203(f) Gutters and Downspouts Site Preparation	M. CONTE Instruction must be added to prohibit gutter attachment that could damage the home. Such as using spikes and ferrules through 1X fascia boards and into roof trusses. I suggest prohibiting spike and ferrule application of gutters.
21523	Foundations	D. GORMAN Add (3) that states: or provided by the manufacturer and approved by their

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
	3285.301(c) General	DAPIA
21523 21529 21533 21536 21536 21538 21539 21540 21543	3285.301 (d)(2) 3285.306 (c) 3285.310 (c) 3285.312(c)(1) 3285.312(c)(2) 3285.314 (b) 3285.401(b) 3285.402(b)(2) 3285.402(c)	D. ROBERTS Change all of these to say: "Must be prepared by the manufacturer or by a registered professional engineer or a registered architect approved by the Secretary in accordance with the manufacturer's home design and the MHCSS (3280) Also, add LAHJ to 3285.314 (b)
21523	3285.204(a) Ground Moisture Control Site Preparation	M. CONTE To prevent undue installation costs, ground moisture control as described in the section should only be required when the home manufacturer requires its application.
21523	3285.204 Ground moisture control. (c) Proper installation.	A. MAJOR '(1) The entire area under the home, except for areas under open decks, porches, or recessed entries, must be covered with the vapor retarder as noted in § 3285.204(a) and must be overlapped at least 12 inches at all joints.' While overlapping of all joints is a good best trade practice to follow ... the joint should also be sealed as well to ensure closure of the vapor barrier preventing the infiltration of moisture in to the underneath area. '(3) Minor voids or tears in the vapor retarder do not require repair.' All voids and tears must be sealed (repaired) to prevent moisture penetration into the area underneath the home. Allowing any voids and tears would virtually render the vapor barrier useless.
21523	3285.204(a)	M. ZIEMAN HUD should retain the MHCC language which allows the LAHJ to modify the vapor retarder requirement based on local condition beyond the term "arid region". The LAHJ knows his area best.
21523	3285.301(c) Foundations General	D. GORMAN To protect affordability, after data, insert: when not provided by the manufacturer
21523	3285.301(c) General Foundations	M. CONTE To protect affordability, after data, insert: when not provided by the manufacturer
21523	3285.301(c) General Foundations	M. CONTE Add (3) that states: or provided by the manufacturer and approved by their DAPIA
21524	3285.303 Tables 1, 2, & 3 and Figure C to	N. TOMASBI Simplify these tables by keeping the "Load" column and deleting all the references to the 16" x 16" concrete footing layouts. Also delete figure C to 3285.312. This would allow

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
	3285.312	utilization of loads to select the appropriate footings per note 1 (3285.312) and would eliminate the inconsistencies within the tables.
21524 21525 21527	3285.303 Table 1 Table 2 Table 3 Foundations	M. CONTE I strongly oppose the table for several reasons: The standard would do better to address pier loads and provide a choice of footing layouts based on pier loads. I am of the strong opinion that a very small percentage of home installations utilize footing layouts as described in the tables. Also, the design assumptions are excessive. This seriously impacts affordability. A 14' section width, with 6" eaves table should be provided as well as 16' section width.
21528 21529	3285.306 (a)(5) design procedures for concrete block piers. Also 3285.306 fig. A	D. GORMAN Strike: or required by a registered professional engineer or registered architect. Concrete block piers as described in this section would only require mortar if required by the manufacturer of the home. This provision negatively impacts affordability.
21528 21529	3285.306(a)(5) Design procedures for concrete block piers. Also 3285.306 fig. A	M. CONTE Strike: or required by a registered professional engineer or registered architect. Concrete block piers as described in this section would only require mortar if required by the manufacturer of the home. This provision negatively impacts affordability.
21528 21529	3285.305 (c)(3) Configuration Also 3285.306 fig. A	D. GORMAN The wood plate maximum of 2" is unrealistic and inconsistent with many of the present manufacturer's instructions. This requirement should allow up to 4" of solid wood plate.
21528 21529	3285.305 (c)(3) Configuration Also 3285.306 fig. A	M. CONTE The wood plate maximum of 2" is unrealistic and inconsistent with many of the present manufacturer's instructions. This requirement should allow up to 4" of solid wood plate.
21528 21529	3285.305(c)(1) Configuration Also 3285.306 fig. A	D. GORMAN Shims must be required to be made from hard wood. Figure A shows caps of "2x8x16 steel" (where do you get 2 inch thick steel at a MH supply)? steel is slippery, can easily crack the blocks. That is why you can never put the steel main beam down on the concrete blocks in a pier you must have some cushion to protect the blocks, at least a set of wedges.
21528 21529	3285.305(c)(1) Configuration Also 3285.306 fig. A	M. CONTE Shims must be required to be made from hard wood.
21528	3285.306(b) design procedures for concrete block piers	D. GORMAN after Mortar is Insert; not.
21528	3285.306(b) design procedures for concrete block piers	M. CONTE after Mortar is Insert; not.

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21529	3285.306	N. TOMASBI <i>Figure A to 3285.306 – Typical Footing and Pier Installation, Single Concrete Block.</i> Revise 2” x 8” x 16” steel or hardwood caps.....to 2” x 8” x 16” hardwood caps or Add ½” thick steel cap It is not practical to use 2” x 8” x16” steel caps.
21529	3285.306 fig. A typical footing and pier installation	D. GORMAN At typical footing note, insert: In freezing climates, the footing must extend below the frost line or be otherwise protected from the effects of frost heave. (or note 1 as found in 3285.310, figure A)
21529	3285.306 fig. A typical footing and pier installation	M. CONTE At typical footing note, insert: In freezing climates, the footing must extend below the frost line or be otherwise protected from the effects of frost heave. (or note 1 as found in 3285.310, figure A)
21530	3285.306 fig B typical footing and pier installation	D. GORMAN after Mortar is Insert; not.
21530	3285.306 fig B typical footing and pier installation	M. CONTE after Mortar is Insert; not.
21530	3285.306 fig B typical footing and pier installation	M. CONTE At typical footing note, insert: In freezing climates, the footing must extend below the frost line or be otherwise protected from the effects of frost heave. (or note 1 as found in 3285.310, figure A)
21530	3285.309	N. TOMASBI <i>Elevated homes.</i> Since the tie downs and piers are designed up to 67” high, delete the “one-fourth of the area of a home” requirement and specify: when a home is installed more that 67 inches above the top of the
21531	3285.310	N. TOMASBI <i>Figure A) and Figure B.</i> Delete footnote 1. This is not consistent with the provisions allowed under 3285.312 (c).
21533	3285.310(d) Pier location and spacing	D. GORMAN Strike second half of this paragraph. A PE or RA should not be permitted to alter the pier support locations as provided by the manufacturer.
21533	3285.310 Typical Mate-Line Column and Piers	D. GORMAN “ Billing Code 4210-27-C ” must be a typo but under it, it says “and not more than 120 inches center to center under the main rails” if this rail is 8 inches thick it will bend. In fact, a Champion product will bend according to their manual if the rail is 10 inches. Generally speaking: 12 inch beams can be spanned no further apart than 12 inches, 10 inch 10 feet, and 8 inch 8 feet. North Carolina has used this for about 10 years.
21533	3285.310(d) Pier location and spacing	M. CONTE Strike second half of this paragraph. A PE or RA should not be permitted to alter the pier support locations as provided by the manufacturer.
21533	3285.311(a) Required perimeter supports	D. GORMAN Many manufacturers design homes that do not require perimeter supports for openings under 60”. It is conceivable that in the future designs may allow even greater spans. This

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		prescriptive requirement undermines affordability. Additional verbiage should be added to direct the installer to follow the manufacturer's designs.
21533	3285.311(a) Required perimeter supports	M. CONTE Many manufacturers design homes that do not require perimeter supports for openings under 60". It is conceivable that in the future designs may allow even greater spans. This prescriptive requirement undermines affordability. Additional verbiage should be added to direct the installer to follow the manufacturer's designs.
21533	3285.311(b)	M. ZIEMAN 3285.311(b): Delete the reference to Table 1 & 3. Only table 2 addresses the use of perimeter piers.
21533	3285.312 (d)	N. TOMASBI Listed below are additional concerns with the existing format. a) Footing configurations 1 through 6 are designed using 8 x 16 piers only. This does not consider 16 x 16 piers which do not require 8" thick footings. This is overly conservative, not cost effective and should not be used as a minimum standard. b) Footing layouts are not consistent with Table 3285.312(d). I strongly believe this simplification would help in training installers and would make this manual more effective.
21533	3285.801 Figure A	N. TOMASBI Revise footnote (e) to allow <u>installers or homeowners</u> to provide the mate-line gasket in addition to the home manufacturer.
21534 21535	3285.312 fig A&B Blocking Diagram	D. GORMAN Direction is needed for providing support piers under factory installed fireplaces and wood stoves., keeping in mind that the DWV , electrical and HVAC systems are often present at these locations.
21534	3285.312 (i)	D. GORMAN "28 day compressive strength of 4,000 psi" The blocks used in the industry today are 1,200 psi lightweight air entrained cmu's , where does one get the 4,000 psi type? The blocks sitting on it are 1,200 psi so why does the one on the bottom have to be so strong?
21534 21535	3285.312 fig A&B Blocking Diagram	M. CONTE Direction is needed for providing support piers under factory installed fireplaces and wood stoves., keeping in mind that the DWV , electrical and HVAC systems are often present at these locations,
21535	3285.312 (FIG)	M. ZIEMAN Figure B Notes: Editorial. Note number 4 and 5 are reversed.
21536	3285.312 (c)(2) and (3) 3285.312 (c)(3)	D. ROBERTS. Should "or" and not "and"
21536	3285.312 (c) (1)	D. ROBERTS. Use similar language as used for flood such as: "Footings placed in freezing climates must be installed in using methods and practices that minimize frost damage in accordance with the LAHJ, the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (3280)."
21536	3285.312 (c) Placement in freezing climates.	D. GORMAN "Must be placed below the frost line" why in the middle area of the home? It can double the cost of a foundation and it does not freeze under there. The State of Kentucky cut this frost line in half if they are more than 2 feet from the perimeter of the home. They have done this

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		for 10 years. Over 300,000 examples exists.....
21537	3285.312 Figure C Footing Configuration Layout Designs.	D. GORMAN These 16 x 16 pads have limited availability. The block companies stopped making them when plastic pads came out and you can't do this with plastic, it will curl up too much.
21538	3285.312(e) footings	D. GORMAN In order to make this document a useful tool for the Mid-Atlantic region and most likely many other regions as well, a footing chart for the selection of round footings is needed. The footing configurations shown are not commonly used. Also, what is the purpose for indicating footing capacities for piers that exceed the maximum load on the pier? A 8"x16" pier has a maximum load of 10,000lbs. Why does this chart show capacities up to 23,800lbs?
21538	3285.312(e) footings	M. CONTE In order to make this document a useful tool for the Mid-Atlantic region and most likely many other regions as well, a footing chart for the selection of round footings is needed. The footing configurations shown are not commonly used. Also, what is the purpose for indicating footing capacities for piers that exceed the maximum load on the pier? A 8"x16" pier has a maximum load of 10,000lbs. Why does this chart show capacities up to 23,800lbs?
21538 21511	3285.314(a) column 1	M. ZIEMAN Contrary to their statement HUD HAS materially modified the intent of the MHCC language. HUD's proposal goes way beyond what was recommended by the MHCC by allowing States and Local Governments to mandate the use of Permanent Foundations. Why is HUD doing this? There is no logical reason. This is an open invitation to discriminate against Manufactured Housing. HUD should revert to the MHCC proposed text on this subject.
21538	3285.314(a)	D. ROBERTS Delete (a) in its entirety and replace with: "The placement of a manufactured home on a permanent foundation must be in accordance with the LAHJ, installed in accordance with their listing by a national recognized testing agency based on a nationally recognized testing protocol or installation in accordance with the manufacturer's approved permanent foundation installation instructions based on the home's design and the requirements of the MHCSS (3280).
21539 21545	3285.401 Anchorage against wind	M. CONTE I failed to see the following important elements: direction for attachment of the anchor strap to the main beams, including protection at the sharp corners of the main beams, direction for longitudinal anchoring for wind zone I, directions to anchor homes with roof pitch greater than 4.3/12
21539 21545	3285.401 Anchorage against wind	D. GORMAN I failed to see the following important elements: direction for attachment of the anchor strap to the main beams, including protection at the sharp corners of the main beams, direction for longitudinal anchoring for wind zone I, directions to anchor homes with roof pitch greater than 4.3/12
21540	3285.402 (2) Longitudinal anchoring	D. GORMAN "Manufactured Homes must be stabilized longitudinally in the wind zone one." (OK, no problem) But when you get to wind zone 2 + 3 you must use ground anchors only instead

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		of the pan bracing systems used today universally. Ask Oliver, Tie Down Eng. Minute Man, etc. There are even places where you can't even screw in a ground anchor because of rock. It says you must call an engineer for this but a pan system would work just fine. They use them in Florida all the time, what is the problem.?
21540 -21543	3285.402 Ground anchor installations. Figure/Illustration	<p>A. MAJOR Following Figure A to § 3285.402 on page 21540 ... there needs to be a figure illustrating the longitudinal anchors and tie-down straps.</p> <p>Following the illustration on page 21543 ... there should to be a blown-up illustration showing the correct and incorrect methods of attachment of the tie-down straps to the chassis beams as noted in note #2.</p> <p>Further illustrations should be included that shows the correct and/or in-correct methods of ground anchor installations, stabilizer plates, strap attachment (swivel strap, frame tie w/ hook, frame tie w/ buckle), proper strap tensioning, concrete slab anchors, etc.</p> <p>Anchorage is perhaps the perhaps the least properly understood and installed element of the installation process for manufactured homes.</p>
21544 21545	3285.402	<p>N. TOMASBI <i>Table 2 and Table 3.</i></p> <p>a) Footnote #10 on both above referenced tables, delete “and home manufacturer instructions”. The installation of ground anchors must be per their instruction not the home manufacturer's instructions.</p> <p>b) Delete footnote #12. This footnote would create an unsafe tie-down condition due to design variables. All spacing's are designed for anchors rated at 3150 lb. Reduced spacing would require new tables. Also footnote #12 is not consistent with footnote #13.</p>
21546	3285.503(d):	M. ZIEMAN Delete this entire section as requirements in flood hazard areas are adequately covered in Subpart B
21547	3285.503 Optional appliances.	A. MAJOR <i>'Figure to § 3285.503 – Dryer Exhaust System.'</i> Unfortunately the illustration to the left shows a reverse slope that is contradictive of note #2.
21547	3285.505	N. TOMASBI <i>Crawlspace ventilation.</i> Revise (d) – eliminate the word “metal” . This will allow other materials designed for ventilation openings to be used and would not limit innovation.
21547	3285.505 Crawlspace ventilation.	A. MAJOR <i>'(a) A crawlspace with skirting must be provided with ventilation openings. The minimum net area of ventilation openings must not be less than one square foot (ft²) for every 150 square feet (ft²) of the home's floor area. The total area of ventilation openings may be reduced to one square foot (ft²) for every 1,500 square feet (ft²) of the home's floor area where a uniform 6-mil polyethylene sheet material or other acceptable vapor retarder is installed according to § 3285.204, on the ground surface beneath the entire floor area of the home.'</i>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
		<p>Acceptable industry standards for crawlspace ventilation are 1 SqFt for every 150 SqFt over non-vapor barrier protected soils. Ventilation requirements over a vapor barrier protected soils is typically reduced to 1 SqFt for every 300 SqFt and when on concrete slabs or permanent foundations the requirements are further reduced to 1 SqFt of ventilation for every 600 SqFt of floor space.</p> <p>Allowing 1 SqFt for every 1,500 SqFt (when a vapor retarder [barrier] is installed) could theoretically allow only a single vent to be installed (in reality two vents ... since most 8x16 vents provide only approximately 0.67 SqFt of free flow open area), thus producing non-acceptable, non-functional ventilation of the crawlspace area.</p> <p>Best trade practices require at least no less than four vents, near the ends to provide for proper air-flow (circulation) to promote necessary cross-ventilation of the space. The purpose and reason for the ventilation requirements is to promote humidity control for management of mold / mildew as well as temperature handling. Further, requiring automatic vents that are self-regulating would provide for a better solution than that of manual vents for the ventilation of the crawlspace, eliminating the human interaction factor.</p> <p><i>'(e) Access opening(s) not less than 18 inches in any dimension and not less than three square feet (ft2) in area must be provided and must be located so that any utility connections located under the home are accessible.'</i></p> <p>A minimum access opening such as that used else where in the building codes would be an opening of not less than 24" by 30" or five square feet (ft2). A not less than 18 inch in any dimension is typically not large enough for service personal to access the underneath side of the home.</p>
21547	3285.601 Ductwork & Plumbing & Fuel Supply Systems Field Assembly	D. GORMAN After Home manufacturer must provide specific...Insert: DAPIA approved...written instructions.
21547	3285.601 Ductwork & Plumbing & Fuel Supply Systems Field Assembly	M. CONTE After Home manufacturer must provide specific...Insert: DAPIA approved...written instructions.
21547 21548	3285.603(e) Water supply 3285.604(d) Drainage systems	D. GORMAN If installers are going to be required to test the DWV, fuel supply systems and electrical systems, the instructions for such tests must be included in the standards. The installer is typically not knowledgeable in; or have access to the Manufactured Home Construction and Safety Standards. These requirements do not take into account regional differences in installation

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21549 21552	3285.605(c) Fuel Supply Systems 3285.702(e) Miscellaneous lights & fixtures	procedures. In our region, the utilities are usually not available at the time the home is installed. The requirements turn the installer into a general contractor with responsibilities that conflict with state laws. The gas system for example, requires expertise beyond that of an installer and contrary to many state requirements. A provision should be made that state approved procedures for testing the systems (gas, water, electrical, drainage) is permissible. The installer should not be held responsible for the "systems" unless the installer was qualified to connect a particular system under applicable state law. Ultimately, the manufacturer has to be responsible for any defects introduced in the manufacturing process and the retailer needs to inspect the home after all utilities are connected. The retailer should verify that utilities were connected under approved state procedures.
21547 21548 21549 21552	3285.603(e) Water supply 3285.604(d) Drainage systems 3285.605(c) Fuel Supply Systems 3285.702(e) Miscellaneous lights & fixtures	M. CONTE If installers are going to required to test the DWV, fuel supply systems and electrical systems, the instructions for such tests must be included in the standards. The installer is typically not knowledgeable in; or have access to the Manufactured Home Construction and Safety Standards.
21547	3285.801 Exterior close-up. (f) Hinged roofs and eaves.	A. MAJOR '(2) The completed hinged roof pitch is less than 7 on 12, and' Believe the roof pitch statement should be 7 in 12 verses 7 on 12.
21548	3285.604(b) Drainage systems Support	M. CONTE The support requirement for drain lines should be spelled out instead of just a reference to the Manufactured Home Construction and Safety Standards.
21550	3285.701	M. ZIEMAN It is nice that the crossover must be "designed" properly but there is nothing here to require that such a design be placed in the installation instructions.
21551	3285.702	N. TOMASBI Figure A Show rings flush to the outside flange of the light as required.
21552	3285.702(d) Miscellaneous lights & fixtures Ceiling fans	D. GORMAN Insert the requirement that ceiling fans must be attached a properly installed junction box listed for ceiling fan application.
21552	3285.702(d) Miscellaneous lights & fixtures Ceiling fans	M. CONTE Insert the requirement that ceiling fans must be attached a properly installed junction box listed for ceiling fan application.
21552	3285.702(e):	M. ZIEMAN The reference in 3285.702(e)(1) must be changed from "3280.810" to "3280.810(b)". As written it includes 810(a) which is the dielectric test. The dielectric test was NOT recommended by the MHCC to be performed after setup and it should NOT be required. Also, all of 3285.702(e)(2) should be deleted as it both duplicates and contradicts what is already required by 3285.810(e)(1).
21553	3285.803	N. TOMASBI Delete "One full-sized panel no less than 16in. nor larger than 32 in.". This type of installation is not uniform and may be obsolete.

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21554	3285.801	<p>N. TOMASBI <i>Section (f) Hinged roofs and eaves</i> is implying new rules and requirements currently not in 3280. This section should be modified by deleting 3285.801 (f) (1) & (2). It should be noted that currently the majority of 7/12 hinged roofs do not require inspection. However, this paragraph implies that these roofs may be subject to the “A/C” process. Similar confusion may apply to hinged roofs in Wind Zone 2 and 3. This is a new requirement and should be addressed in 3280 standards not as part of 3285.</p>
21554	<p>3285.801 Exterior close-up. (f) Hinged roofs and eaves.</p>	<p>A. MAJOR <i>‘(c) Gaps between the structural elements being interconnected along the mate-line of multi-section homes must not exceed 1 1/2 inches and must be shimmed with dimensional lumber.’</i></p> <p>Believe 1½ inch gap between structural elements far exceeds an acceptable tolerance. These homes are built in a factory environment that should be under controlled conditions, which should be maintaining tighter tolerances.</p> <p>Believe this should be reduced to no more than ¾ inch gap between structural elements.</p>
21554	<p>3285.802 (c) Structural interconnection of multi-section homes.</p>	<p>D. GORMAN “Gap cannot exceed 1 1/2 inches” should have “When home halves are touching and the mating gasket is sealing, then the gaps should be filled. You can’t just leave the whole home 1 1/2 inches apart and fill the gap all the way around the marriage line.</p>
21554	3285.803 Interior close-up.	<p>A. MAJOR <i>‘(c) At a minimum, all shipped-loose wall paneling, necessary for the joining of all sections of the home, must be installed by using polyvinyl acetate (PVA) adhesive on all framing members and fastened with minimum one-inch long staples or nails at 6 inches on center panel edges and 12 inches on center in the field (Refer to Figure to § 3285.803).</i></p> <p>The usage of PVA on wall paneling used to close up the marriage line presents issues with damage to the wall panels if the home is ever to be taken apart for relocation and reinstallation. This requirement at the marriage line should be eliminated. Additionally, due in part to potential alignments of walls, floors, ceilings in multi-section homes; sometimes shimming becomes necessary to maintain square and plumb; and the attachment of trims and moldings ... thus staples or nails need to be at least 1½ inches long at a minimum typically.</p>
21556	3285.804	<p>N. TOMASBI Revision to note (b). Any splits or tears must be resealed in accordance with the manufacturer’s installation instructions. The requirement as noted is not clear and would cause confusion.</p>
21556	3285.804	<p>A. MAJOR All crossover connection and other access panel portals must be checked for proper insulation and closure of the underbelly cavity.</p>
21557 21558	3285.905	<p>A. MAJOR Reference to other applicable recognized standards should be integrated ... such as that of Article 550 — Mobile Homes, Manufactured Homes, and Mobile Home Parks of the NEC (NFPA 70 – National Electrical Code) and another recognized standards for plumbing (water / sewer) and LP gas systems as germane to utility system connections.</p>

PAGE #	SECTION/TITLE/PARAGRAPH	COMMENT
21559	3285.907	A. MAJOR While this section does not specifically address telephone and cable TV connections ... reference, however, to the applicable sections of the NEC (NFPA 70 – National Electrical Code) should be incorporated.
21566 21505	3285.901(c) Column 1	M. ZIEMAN Column 1, Paragraph 2: HUD indicates in the discussion that the requirements in Subpart J are "recommendations" for the manufacturer's to include in their installation instructions. However, as worded 3285.901(c) uses the term "must" and as such would REQUIRE all the information in the balance of Subpart J (section 902 through 907) to be included in the manufacturer's instructions. 3285.901(c) must be revised to remove the mandatory term "must".