



# Manufactured Housing Construction Guide

MH Advantage®-eligible subdivisions

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# 1. Introduction

More than 22 million people in the U.S. currently live in manufactured homes.<sup>1</sup> While the high cost of residential construction is a major contributor to the nation's housing supply crisis, high-quality manufactured housing is paving the way for these homes to become a real solution within suburban communities. Improvements made to their quality, safety, and appearance, combined with a strong secondary mortgage market for manufactured housing, make manufactured homes a solution for mitigating the housing shortage in markets across the country. As federal, state, and local governments look to reevaluate their real estate development procedures with an eye toward affordability, the low cost and high quality of today's manufactured homes are likely to prompt greater market acceptance while also giving builders, lenders, and buyers access to a home product that is readily available and designed to blend into markets across the country.

Fannie Mae has collaborated with leading manufactured housing industry stakeholders to create an option for suburban communities with the MH Advantage® program.<sup>2</sup> The program is an innovative homeownership option that pairs affordable mortgage financing with specially designed manufactured housing. MH Advantage-qualified homes have features and aesthetics comparable to site-built homes. These attributes help deliver business growth for homebuilders and developers while offering homebuyers a new affordable path to homeownership.

This toolkit serves as a starting point for developing real estate projects with manufactured housing by:

- Providing an overview of the manufacturing process.
- Outlining each step in the planning and the construction of MH Advantage-eligible subdivisions.
- Explaining the regulations that govern manufactured housing.
- Providing essential resources for lenders, developers, and other stakeholders.

The information provided by this toolkit will help builders and developers target prospective building sites, expedite projects while reducing costs, and mitigate the challenges unique to manufactured housing.

1 [2021 Manufactured Housing Facts: Industry Overview \(MHI, 2021\)](#).

2 MH Advantage is a registered trademark owned by Fannie Mae.

## About Fannie Mae

[Fannie Mae](#) supports mortgage lenders who provide mortgage financing to help people buy, refinance, or rent a home. Our secondary market loan purchase program helps make products such as the 30-year, fixed-rate mortgage possible. It provides homeowners with predictable mortgage payments over the life of the loan. Our efforts offer liquidity, stability, and affordability to the single-family and multifamily markets in a disciplined fashion while maintaining credit standards and minimizing losses.

## About National Institute of Building Sciences

The U.S. Congress established the [National Institute of Building Sciences](#) (NIBS) in 1974 to bring the public and private sectors together, address building science and technology-related issues, and improve the safety and performance of buildings. Today, NIBS continues to provide the opportunity for free and open discussion of issues and problems where conflict and misunderstanding have occurred. It continues to assemble federal, state, and local government agencies and representatives of the private sector for open working sessions that seek a consensus solution to problems of mutual concern. NIBS also works with federal agencies on projects related to the built environment to help achieve national goals. Headquartered in Washington, D.C., NIBS' professional staff provides technical, managerial, and administrative support for the Institute's programs.

## About ICC NTA

[ICC NTA](#) is a member of the [International Code Council](#) (ICC) family of solutions. As an accredited third-party agency, NTA provides code evaluation, product certification, inspection, engineering, plan review, and testing services, as well as independent quality and standards compliance verification for building product manufacturers. NTA serves residential and commercial builders, code officials, manufacturers, and suppliers throughout the building industry.

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## 2. The MH Advantage Program

### 2.1. What is a modern manufactured home?

A manufactured home is a home built entirely in a factory on a permanent chassis, transported to a building site, and placed on a foundation. Often referred to as “HUD Code” homes, manufactured homes are the only type of housing designed, built, and installed under federal building code. Since 1976, the U.S. Department of Housing and Urban Development (HUD) has established, published, and updated the standards for manufactured home design, construction, and installation and set performance standards for the heating, air-conditioning, plumbing, and electrical systems. These standards ensure manufactured homes’ quality, durability, safety, transportability, and energy efficiency. No manufactured home can ship from a factory unless it is in line with the HUD Code and carries a certification label from an independent, third-party inspector.

As the standards for design, construction, and installation of manufactured homes evolved, so have the construction materials and methods. These have improved the interior and exterior appearance of a new generation of manufactured homes, breaking barriers to market acceptance in certain market segments. Changes in technology and manufacturing processes have also made manufactured homes more energy efficient

and environmentally friendly. Furthermore, modern multi-section manufactured homes provide increased living space and a footprint and proportions similar to site-built homes.

The features of today’s manufactured homes appeal to a broad range of homebuyers, which supports a more diverse buyer demographic. The appeal of modern designs and materials combined with various financing options have opened new markets to manufactured housing.

### 2.2. What is MH Advantage?

[MH Advantage](#) is a mortgage option from Fannie Mae that offers affordable, low down payment financing for manufactured homes that blend seamlessly into neighborhoods. MH Advantage-eligible homes are designed with higher-pitched rooflines, larger eaves, and lower-profile foundations not traditionally found in standard manufactured homes. Additional features include attractive, durable siding materials, roof dormers, covered porches, garages, and carports. Interior finishes are similar to those seen in new, site-built homes, including kitchen cabinets with fronts of solid wood or veneered wood, drywall rather than vinyl panels, and higher-end materials for counters, sinks, and tubs.

MH Advantage financing expands access to homeownership. It offers conventional financing terms traditionally reserved for site-built homes, including down payments as low as 3% and mortgage insurance coverage similar to site-built homes.

Homebuilders and developers who decide to use MH Advantage-eligible homes can offer potential homebuyers an attainable price point without compromising on quality of aesthetics — meeting a need that is missing in the market today. Since manufactured homes are built in a controlled environment, weather delays and material or labor shortages are less likely to impact the construction time. These homes can get to market faster and at lower costs, which allows homebuilders and developers to meet the growing demand for housing while sustaining or increasing their profit margins.

Figure 1: Features of MH Advantage-eligible homes

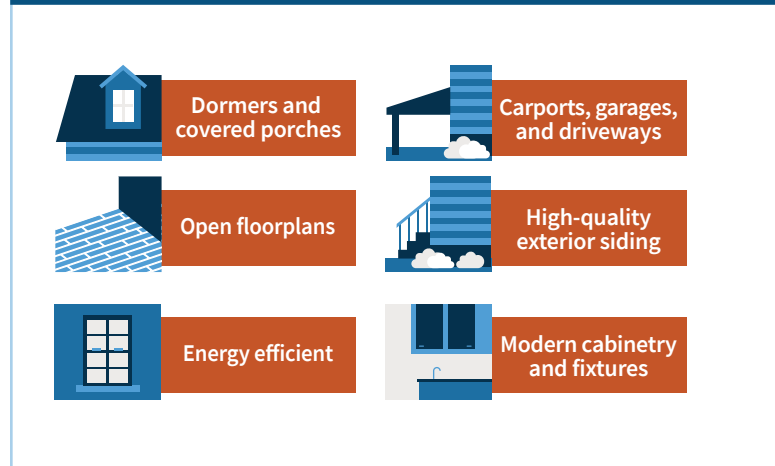






Figure 2: MH Advantage financing expands access to homeownership

 <b>Faster speed to market</b>	 <b>High-quality features</b>	 <b>Attractive financing</b>	 <b>Cost savings</b>
<p>Construction time is reduced, meaning faster production schedules and less inventory.</p>	<p>Steep-pitch roofs and low-profile foundations allow homes to blend into site-built neighborhood.</p>	<p>Homebuyers are offered an affordable path to homeownership.</p>	<p>Increased sales velocity from faster home delivery provides substantial cost savings for homebuilders and developers.</p>
<p>Homes are built off-site in climate-controlled factories, reducing weather delays.</p>	<p>Homes are constructed with drywall and wooden cabinetry.</p>	<p>Down payments are as low as 3%.</p>	<p>Increased profit margins offset higher land costs.</p>
<p>Homes are then transported to the home site for final installation.</p>	<p>Homes are built with energy-efficient features.</p>	<p>Homebuyers are offered reduced mortgage insurance.</p>	
	<p>Borrowers can even customize the home with sought-after features similar to site-built homes.</p>	<p>Interest rates are comparable to those for site-built homes.</p>	



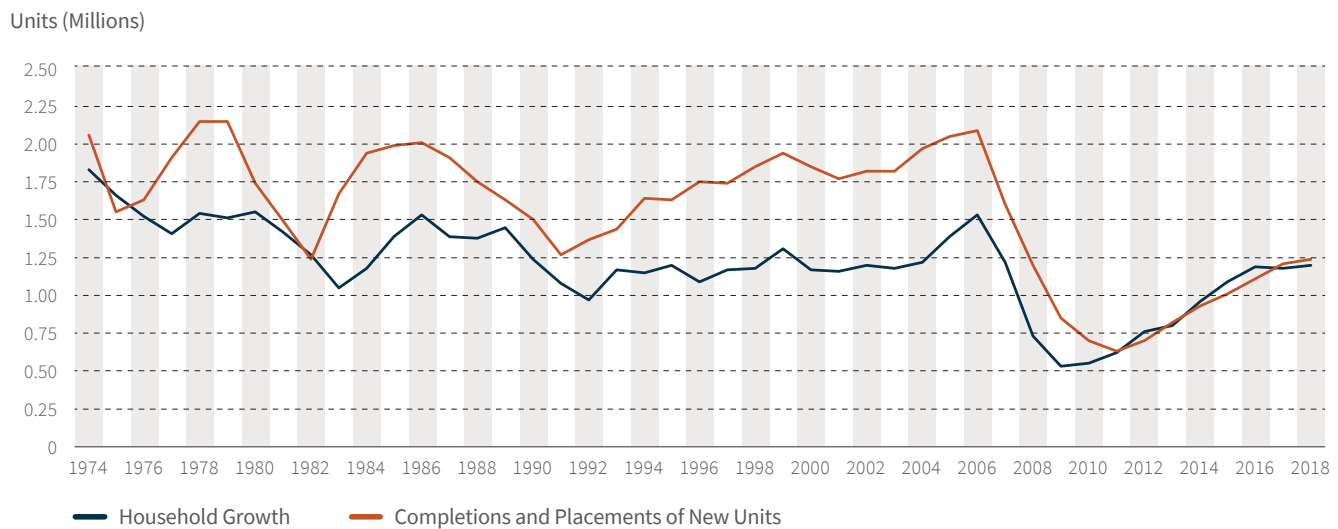
## 3. Manufactured Homes and the Residential Housing Market

### 3.1. The residential housing market crisis

#### 3.1.1. Insufficient supply and rising home prices

The supply of homes for sale has not kept up with demand for over a decade, and the supply of new home construction in particular has faced constraints. [Research from the Joint Center for Housing Studies of Harvard University](#) shows that housing construction has *barely* kept pace with household growth for almost eight years, an unprecedented amount of time for the U.S.

Figure 3: Housing construction has barely kept pace with household growth for an unprecedented eight years (The State of the Nation's Housing 2019)



Notes: Household growth estimates are based on three-year trailing averages. Placements refer to newly built mobile homes placed for residential use. Source: JCHS tabulations of U.S. Census Bureau, Housing Vacancy Surveys, and New Residential Construction data.

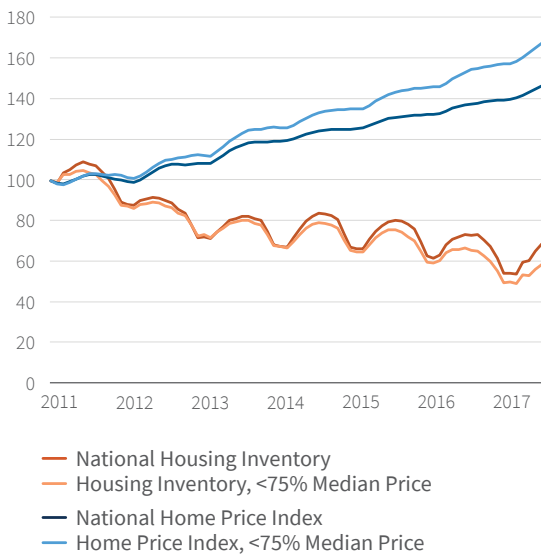


In 2020, this gap widened with fewer newly constructed and existing homes on the market than in previous years. In fact, September 2020 represented a 25-year-low for the number of new homes on the market. The constrained supply of available houses is compounded by the lack of affordability. While insufficient inventory occurs at all price points, the gap between supply and demand is widest at lower price points. This gap leaves millennials and Generation Z consumers, who are reaching prime homebuying age, with severely reduced inventory of affordable entry-level housing (Figure 4).

**Figure 4: Home prices and availability**  
**(2018 Annual Housing Activities Report**  
**and Annual Mortgage Report, Fannie Mae)**

#### Supply and Demand: Out of Sync

Home purchase prices and available housing inventory have diverged since 2010, and the gap worsens at the more affordable end of the market.



Source: CoreLogic and Fannie Mae

The Federal Housing Finance Agency (FHFA) price index estimated that U.S. home values are 36% above the peak set in 2007 during the housing bubble.<sup>3</sup> In addition, home prices are not only increasing but also rising at a faster rate each year. Intense competition for the limited stock of homes combined with mortgage rates at record lows contributed to prices increasing at a higher rate in 2020 than in 2019. Q3 2020 and Q4 2020 home prices rose at a remarkable 11.7% and 11.3%, respectively, compared to the same quarters of 2019.

#### 3.1.2. The affordability gap: home prices and income

The gap between home prices and household income is a critical factor in the housing crisis, and house prices continue to outpace incomes. In 2019, the average home cost was 4.3 times more than the median annual income, well above levels that prevailed in previous decades.<sup>4</sup> According to the Joint Center for Housing Studies of Harvard University report *The State of the Nation's Housing 2020*, the median sales price of existing single-family homes in 2019 rose faster than the median household income for the eighth straight year. The median sales price is quadruple the amount of the median household income for the fourth consecutive time in 2019.

Persistent high housing costs relative to income have led to increasing numbers of households spending 30% or more of their income on housing, which HUD defines as “housing cost-burdened” households. In 2019, 37.1 million households, nearly a third of all households nationwide, were housing cost-burdened, demonstrating persistent unaffordability in the homeownership market.

#### 3.1.3. Affordability and consumer demand

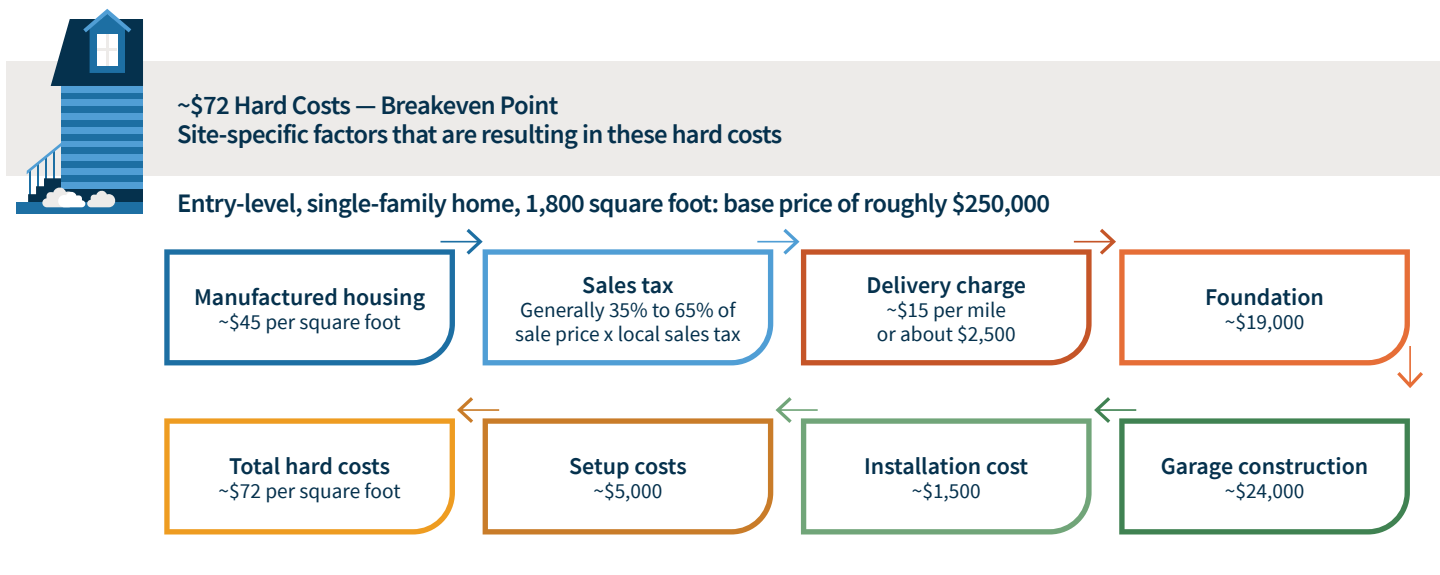
The low level of affordable inventory will continue to fuel strong demand for new housing in the years to come. And, although the national homeownership rate climbed to 65.8% at the start of 2020, the homeownership rate among consumers 35 years old and younger — including younger millennials and Generation Z, who are largely within their prime homebuying years — remains well below expectations at 38.5%.<sup>5</sup>

<sup>3</sup> [House Price Index \(FHFA, 2021\)](#).

<sup>4</sup> [Joint Center for Housing Studies of Harvard University 2020](#).

<sup>5</sup> [Quarterly Residential Vacancies and Homeownership \(Census, Q2 2021\)](#).

Figure 5: Calculating the total hard costs of MH Advantage-eligible homes



A one-size-fits-all answer will not resolve the lack of affordable housing. Baby boomers likely will continue to downsize, and recent studies have shown that many of these homes do not match the needs, desires, and budget of younger buyers. Between 2018 and 2023, Fannie Mae expects a rise of 7% in those who are single and 6% in increase in those who are married with no children. These changes in household demographics have prompted many homebuilders to rethink their business models to meet these changes and local governments to reconsider their approach. Some common approaches include the construction of smaller homes as well as higher-density options, like multi-unit properties and townhouses.

Even with low inventory, homebuilders and developers should know that today’s borrowers are still seeking out homes that are built sustainably and with modern amenities.<sup>6</sup> When affordability is within reach, today’s homebuyers are increasingly expressing a willingness to choose a smaller home while also preferring that the home includes desirable amenities.<sup>7</sup> This has opened the door for residential construction that can be built to meet these preferences while still maintaining a low purchase price.

### 3.2. Creative solution to address the nation’s housing needs

Today’s manufactured homes can help ease the nation’s affordable housing shortage, address borrowers’ evolving needs, and provide a growing business opportunity for the homebuilding industry. Manufactured homes currently represent approximately 9% of new home purchases.<sup>8</sup> With a variety of architectural styles and configurations, these homes are suitable for subdivision development in addition to scattered and infill lot development.

A recent study determined that the combined cost for site preparation and construction, delivery, and installation of a new MH Advantage-qualified home ranges between \$70 and \$120 per square foot,<sup>9</sup> depending on the market. In areas where the hard costs for construction of site-built homes are above that threshold, MH Advantage-eligible homes can generate substantial savings for homebuilders and developers. These cost reductions result in noticeable savings for people buying MH Advantage-eligible homes in the area.

6 [The Top Four Ways Millennials Are Changing the Housing Market \(CareLogic, 2021\)](#).

7 [Millennial Home Buying Preferences \(HousingEconomics.com, 2019\)](#).

8 [2021 Manufactured Housing Facts: Industry Overview \(MHI, 2021\)](#).

9 Data analysis is based on Zonda (formerly known as MetroStudy and Meyers Research), research data published in August 2020, and FHFA Area Median Income data.

In areas of the country where the average household cannot afford a new home or even an existing home at current prices, modern manufactured homes can become a high-quality and attainable solution.

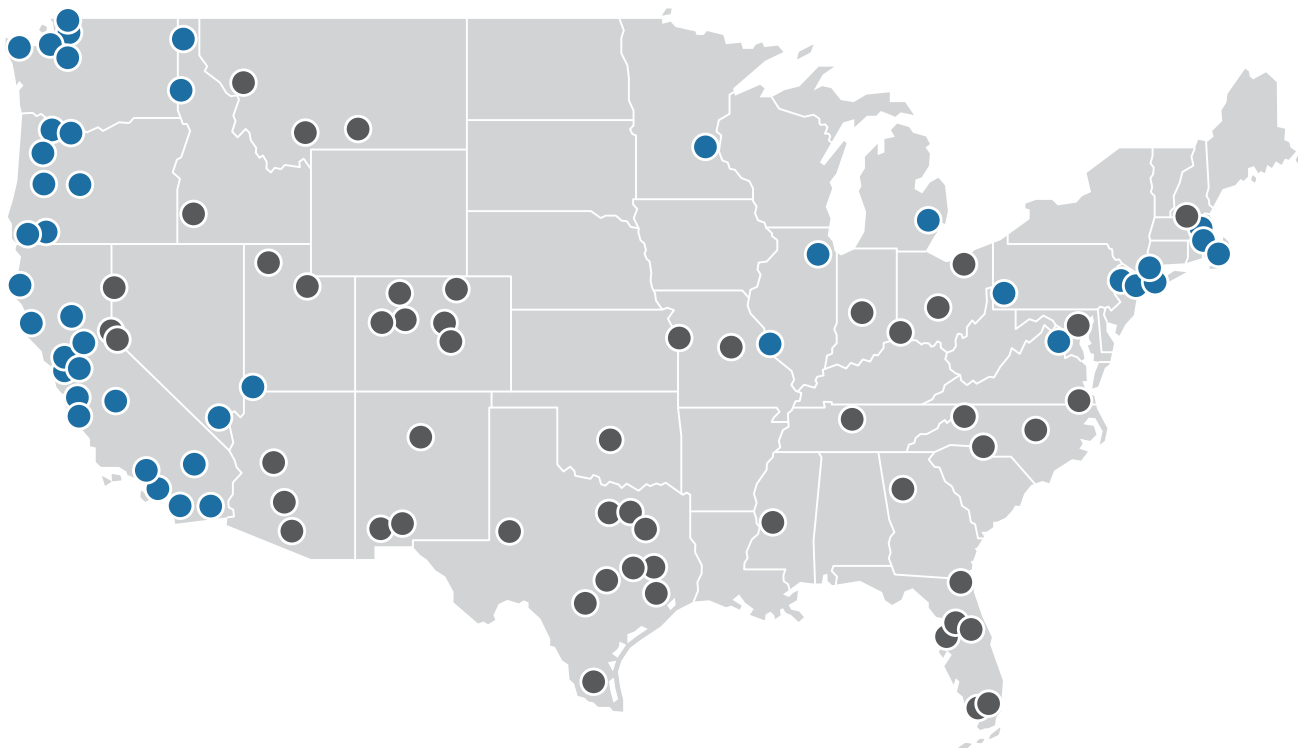
### 3.3. Opportunity presented by manufactured homes

In collaboration with Zonda (formerly known as MetroStudy and Meyers Research), Fannie Mae completed an initial market assessment in August 2020 as part of the development of this toolkit. The assessment identified geographic markets where the demand for entry-level, affordable housing would be highest. The study then reconciled this “demand-side” analysis with an assessment of the estimated costs of materials for both MH Advantage-eligible manufactured homes and site-built homes of comparable sizes.

The results revealed that some markets across the country may provide homebuilders and developers with a ready-made customer base for MH Advantage-eligible homes. Markets presenting the greatest opportunities were largely concentrated in high-cost regions in California and along the Pacific Northwest (identified in blue in the map below).

Homebuilders and developers may also consider MH Advantage as a creative solution to meeting newfound demand in nontraditional geographic markets, such as markets offering lower cost-of-living arrangements just outside of major urban areas. These areas may offer additional flexibilities due to streamlined building codes or more permissive zoning requirements. Many of these less urban locations are seeing heightened demand for housing, as these nontraditional markets are increasingly providing access to jobs, community infrastructure, and recreational activities. Recent research indicates that consumers are indeed reconsidering the advantage of a suburban lifestyle,

Figure 6: Overall market opportunities (gray) and markets with an assumed cost advantage for MH Advantage-eligible properties when compared to site-built construction (blue)



especially in light of the increasing prevalence of remote work environments due to the COVID-19 pandemic. As more flexible work arrangements continue to grow and more consumers pursue affordable housing options in nontraditional real estate markets, builders and developers can look to creative housing options that accommodate these trends.<sup>10</sup>

As described later in Section 6 of this report, to ensure the local housing market can support a development using MH Advantage-qualified homes, homebuilders and developers should perform analyses of local market trends and consumer sentiment and behavior before choosing such a product for their next development project.

Figure 7: **Sampling of markets with assumed cost advantage for MH Advantage-eligible homes**



### **Top Opportunity Markets**

(based on cost, sorted alphabetically)

Bend, OR	Sacramento, CA
Bridgeport, CT	Salem, OR
Chicago, IL	Salinas, CA
Chico, CA	San Diego, CA
Columbus, OH	Santa Rosa, CA
Eureka, CA	St. George, UT
Fresno, CA	St. Louis, MO
Grants Pass, OR	Stockton, CA
Inland Empire, CA	Ukiah, CA
Las Vegas, NV	Vallejo, CA
Minneapolis, MN	Washington, D.C.

10 [Millennials Embrace Suburban Homeownership \(Realtor.com, 2021\)](#).



## 4. Advantages to Constructing Developments with MH Advantage-Eligible Homes

According to the consumer-based research performed by Fannie Mae,<sup>11</sup> the architectural and aesthetic features of MH Advantage-eligible homes make them nearly indistinguishable from site-built residences. They include distinctive roof treatments (eaves and higher-pitched rooflines), lower-profile foundations, durable siding materials, and additional structures like garages, carports, and porches. In fact, according to the Joint Center for Housing Studies of Harvard University, the quality and finish of modern high-end manufactured homes are equivalent to that of site-built homes. Additionally, according to HUD, “the factory-built housing industry is constantly evolving to meet the changing needs of its customers,” including innovations in disaster resilience, energy efficiency, and performance.<sup>12</sup>

### 4.1. Cost- and time-effective construction

Today’s manufactured housing has the potential to generate significant time and cost savings during construction. Efficiencies in the factory manufacturing process drive both, which can translate into tangible gains for homebuilders and developers. Cost savings may result from a variety of factors, such as economies of scale that can significantly drive down the unit costs of even smaller projects.

Factory-built housing can result in time savings, which may translate into cost savings for homebuilders and developers. Weather delays, damage, and loss or theft of construction materials on-site all can impact costs of site-

A study conducted by the California Coalition for Rural Housing found that developers realize cost savings by purchasing manufactured homes out of a larger mass production run of similar units, capitalizing on the benefit of bulk purchasing of materials, assembly line efficiencies, and production standardization. The manufacturers in these projects were able to work within a collaborative design-build modality in which housing units were customized to meet a variety of project specifications, needs, and constraints. These manufacturers collaborated with developers to create project-specific processes in areas like unit design, production scheduling, change orders, quality control, and the installation of finished housing units.<sup>13</sup>

11 [Fannie Mae on how to make housing more affordable \(HousingWire, 2021\)](#).

12 [Evidence Matters \(HUD, Winter/Spring 2020\)](#).

13 [Affordable Manufactured Housing Best Practices: Opportunities for California Affordable Housing Developers \(California Coalition for Rural Housing, 2010\)](#).

built homes. Manufactured homes' streamlined production in a climate-controlled factory may eliminate these issues and their associated costs. While no construction project is free from these variables, the use of modern manufactured housing can reduce or even remove many of the factors that cause delays in completing conventional construction projects. This has the potential to increase the number of sales and lessen any carrying costs associated with financing the acquisition and development of the land.

## 4.2. Sustainability

When compared to site-built homes, today's manufactured homes offer a variety of environmentally friendly features. Unlike with on-site construction, in manufactured home production, building materials are stored indoors, which prevents losses from sun fading, water damage, or material theft. The National Association of Home Builders estimates that conventional homebuilders produce close to 8,000 pounds of waste for a 2,000 square-foot site-built home. Conversely, the waste generated at manufactured home factories is often recycled or reused on-site. The precision of the manufacturing process also reduces waste, and the production process optimizes the use of smaller material cut-offs that may otherwise be discarded.<sup>14</sup>

In many markets, manufactured home producers also offer the advantage of energy efficiency packages that exceed the minimum standards required for MH Advantage-eligible homes. For example, the Northwest Energy-Efficient Manufactured Housing Program developed energy efficiency standards and has certified the energy efficiency of over 240,000 manufactured homes since its inception. These energy efficiencies have the potential to add long-term value to the home, which can be a consumer benefit recognized at resale.

## 4.3. Safety compared to site-built construction

Modern manufactured homes are built to federal building standards (HUD Code), regulating all aspects of performance, including wind resistance. Because today's manufactured homes are built to a federal construction and safety standard, these homes are required to meet minimum federal requirements for safety and durability.

Initially adopted in 1976, HUD Code continues to evolve the safety and durability requirements for manufactured homes. In 2007, the federal government established standards requiring all new manufactured homes to meet minimum requirements for installation and anchoring in accordance with the home's structural design and wind zones in the location where the home is installed. Additionally, per HUD, "the HUD Code has mandated changes that make modern manufactured homes significantly more resilient to fire and natural disasters than pre-HUD Code housing."<sup>15</sup> States have the authority to establish additional installation standards, but any standards the states impose must exceed the minimum federal standards.

## 4.4. Suitability for subdivisions

More manufactured housing producers are investing in the growing market opportunity resulting from the use of manufactured homes in larger real estate settings. In recent years, leading manufacturers created and marketed specific brands designed to attract a segment of homebuyers who may not have considered a manufactured home in the past. Recognizing the distinct needs of homebuilders and developers, many manufacturers are organizing dedicated teams of sales and support staff to support real estate development projects from ideation to execution. Categories of homes and brands that have achieved the most market recognition to date include the CrossMod™ and Genesis Homes™<sup>16</sup> as a response to Fannie Mae's creation of the MH Advantage loan product.

With an eye toward supporting real estate developments, manufacturers may be open to negotiating with homebuilders and developers on several areas related to home construction, including:

- Final specifications of unit.
- Purchase price of units and delivery dates.
- Payment terms and invoicing systems.
- Shipping and installation.
- Additional quality control measures.

<sup>14</sup> [Going Green: Manufactured Homes are the Original Eco-Friendly Housing \(Hames, 2018\)](#).

<sup>15</sup> [Evidence Matters \(HUD, Winter/Spring 2020\)](#).

<sup>16</sup> CrossMod is a registered trademark owned by the Manufactured Housing Institute. Genesis Homes is a registered trademark owned by the Skyline Champion Corporation.



## 5. MH Advantage Eligibility Requirements

To be eligible for the MH Advantage financing program, manufactured homes must meet the criteria outlined below.

### 5.1. Home requirements

In order to qualify for MH Advantage financing, an eligible home must be built by a [manufacturer who has entered into an agreement](#) with Fannie Mae to participate in the MH Advantage program. MH Advantage-eligible homes must meet the following criteria:

- The design of the home must be a multi-section property (i.e., no single-wide homes).
- Exterior siding must comprise one or more of the following: fiber cement board, hardwood siding, engineered wood siding, masonry, stone, stucco, or vinyl siding backed with oriented strand board.
- Eaves must be six inches or greater. (Eaves no smaller than four inches are acceptable if combined with site-completed gutters that are at least two inches wide.)
- Roof must have a pitch of 4/12 or greater. (Note: Homes with more than two sections may have any roof pitch.)
- Features must include one of the following pairs:
  - Dormer(s) and covered porch (minimum 72 square feet); or,
  - Dormer(s) and attached garage/carport; or,
  - Covered porch (minimum 72 square feet) and attached garage/carport.
- Homes must be designed with a low-profile finished floor set that does not exceed 30 inches from the bottom of the floor joist to the exterior grade for either the front or other entry elevation. (Note: This is a design standard only. The topography of the site or other considerations may affect the actual placement of the home on-site, and it does not disqualify the home from the MH Advantage program.)
- Homes must meet one of three energy standards:
  - Overall U-value of 0.076 or less; or,
  - 2009 International Energy Conservation Code; or,
  - ENERGY STAR®.(Note: A manufacturer may seek Fannie Mae's prior approval of alternative specifications if it can demonstrate the specifications meet or exceed one of these three energy standards.)

- The interior must have all features listed below:
  - Drywall (tape and texture) throughout the home, including closets. (Note: Materials like ceramic tiles, shiplap, or other decorative wall treatments may be applied over the drywall.)
  - Kitchen and bath cabinets with fronts of solid wood or veneered wood.
  - Bathroom features that include fiberglass, solid surface, acrylic, composite, porcelain/enamel-coated steel, or tile for all showers and/or tubs in the home.

## 5.2. Foundation requirements

To be eligible for the MH Advantage financing program, a manufactured home’s design must accommodate a foundation that meets *all* the following criteria:

- Has a masonry perimeter wall (concrete block and/or brick).
- Is consistent with HUD’s Permanent Foundations Guide for Manufactured Housing.
- Has an engineered foundation certified by a registered architect or professional engineer.

## 5.3. Site requirements

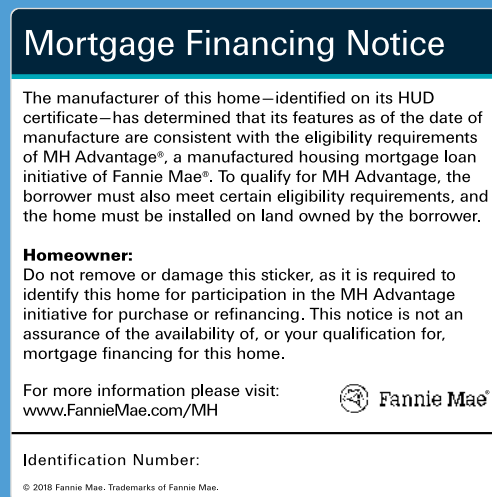
Builders are responsible for the required on-site features listed below:

- A driveway that leads to the home (or to the garage or carport, if one is present) and that consists of blacktop, pavers, bricks, concrete, cement, or gravel. (Note: Gravel must have a minimum depth of 4 inches.) If the home does not have a garage or carport, the driveway can lead to a parking pad.
- A sidewalk that connects the driveway, a detached garage, or carport to a door or attached porch of the home. The sidewalk must consist of blacktop, pavers, flagstone, bricks, concrete, or cement.

## 5.4. MH Advantage appraisal and sticker

An important selling point for homebuilders and developers is that the MH Advantage sticker allows the home to qualify for MH Advantage financing not only at the initial point of sale but also at resale. Even if MH Advantage financing is not used in the original house purchase, the MH Advantage sticker means that when a buyer is ready to sell, that home is still eligible for the program’s affordable financing in a future mortgage transaction.

Figure 8: MH Advantage sticker



The same general appraisal requirements for new subdivisions apply to MH Advantage appraisals. The appraiser must select one comparable sale from the subject subdivision or project and one comparable sale from outside the subject subdivision or project. The third comparable sale can be from within or outside of the subject subdivision or project as long as the comparable sale is a good indicator of value for the subject property. Two of the sales must be verifiable from reliable data sources, separate from the builder.



Standard valuation requirements for manufactured homes apply, including:

- [Selling Guide, B4-1.3-05, Improvements Section of the Appraisal Report](#)
- [Selling Guide, B4-1.3-10, Cost and Income Approach to Value](#)
- [Selling Guide, B4-1.3-10, Cost and Income Approach to Value](#)

The Manufactured Home Appraisal Report (1004C) or Appraisal Completion Report (1004D) must include photographs of the HUD Data Plate, HUD Certification Label, and MH Advantage sticker, as well as photographs showing the driveway, sidewalk(s), detached structures located on the site, the external front and rear of the home, and the interior of the home. For purchase transactions of new manufactured homes, the appraiser must analyze the sales contract and manufacturer's or retailer's invoice, provide a summary in the appraisal report, and complete the cost approach. Resources for [lenders](#) and [appraisers](#) are available on Fannie Mae's website.



## 6. Planning an MH Advantage Community

The keys to success for manufactured housing projects are thorough preconstruction research and continued coordination and communication between the homebuilder, manufacturer, and installer. The pace of factory-built construction leaves little room for error, and early decision-making and coordination are essential for things that can be decided much later in the process in a traditional site-built project. In the construction phase, some site-built construction management duties will be the responsibility of the manufacturer, but other construction management tasks will need strict oversight. Builders should maintain stringent control of the timeline during site preparation to prevent delaying the home's installation and to ensure the project stays on schedule. Careful delineation of scope for all parties and consistent communication between the factory and builder is absolutely critical in ensuring a successful project and for realizing any schedule or cost benefits from manufactured housing projects. Early and consistent coordination is key.

### 6.1. Site selection and preparation

#### 6.1.1. Evaluating land and site suitability

A land feasibility study is a critical part of determining whether a proposed project is financially and physically possible. These studies generally involve input from contractors, an engineering team, an architect, and possibly a city planner. They include soil testing, slope determination, and potential environmental impacts and/or limitations due to protected habitats or species. In

addition, the land feasibility study will inform the developer of local zoning rules and building codes, roads or utilities that are necessary for the property, and if any proposed construction in the area could impact the site.

A market analysis will yield information on affordability levels for prospective buyers, house sizes, basic design, and desired amenities. Armed with a clear project goal and requirements for the housing units, the developer can begin the procurement.

In many ways, site assessment for manufactured homes is no different than it is for site-built home construction. Activities like reviewing zoning requirements and the availability of utilities, conducting soil tests, evaluating drainage issues, and performing environmental impact assessments are standard for both types of construction. When evaluating for the placement of manufactured homes, builders should assess some additional criteria:

- **Soil conditions:** Soil quality affects an installation site's load-bearing and drainage capabilities. Sufficient load-bearing ability is essential for manufactured homes, which can weigh 20% to 30% more than comparable site-built homes. Manufactured home sites must be well-drained to provide a dry environment; homes should not be installed on low-lying land that collects water or creates marshy conditions. Although soil remediation and excavation can mitigate some negative issues with a site, they can affect the project's timeline and costs.

- **Site accessibility:** Builders must examine individual home sites to identify existing or potential obstacles that would prevent the installation of a manufactured home. These types of obstacles typically involve the terrain, vegetation, and existing structures on or adjacent to the site, such as trees on or overhanging the site, tree stumps, telephone poles, street lamps, or large boulders.
- **Lot size:** The lot size must be sufficient to maneuver the modules during installation and provide a staging area for temporary support of the home. If the foundation/unit footprint takes up most of the lot, off-site space must be available. Potential off-site space could include adjacent, unobstructed public or private property or public streets. Whether using on-site or off-site space, builders will need to verify that the dimensions for staging and maneuvering of sections and equipment during installation are sufficient and accurate.
- **Unit transport access:** Roads used for delivering the modules must be able to accommodate the 40- to 60-foot-long sections of manufactured homes. The company that will be delivering the homes should have a transport assessment in place to evaluate potential hazards and obstacles and determine requirements for permits and escort vehicles.

### 6.1.2. Site preparation

While manufactured homes are being constructed in the factory, builders will need to complete site preparation, install foundations, and run utilities. Manufacturers and/or retailers can assist builders and developers by recommending contractors with experience in manufactured home site preparation and foundations.

Site preparation facilitates the movement of the home during installation, ensures the proper performance of the foundation, and allows sufficient drainage. Thorough site preparation is critical to the long-term integrity and durability of the foundation and the home. Site preparation must address the home's specific installation requirements as well as the local climate, the severity of the weather, and the site's terrain features and soil characteristics. In contrast to site-built construction where schedules are often subject to lengthy delays, manufactured home delivery dates usually are accurate within a day. Given the precision of delivery dates, developers should schedule site preparation

and foundation construction with the goal of completing all pre-delivery work at least one day before the home arrives.

To safeguard the stability of the foundation, the soil must be compacted and negative qualities mitigated. Foundations that do not provide sufficient support can result in bowed floors and walls, cracked walls or ceilings, doors and windows that do not operate properly, and other structural defects that require costly repairs. Soil characteristics can vary considerably within a small area. It is not unusual for land within the footprint of an individual manufactured home to have different types of soil and variations in the slope and drainage capability. The region's geography may impose additional conditions that affect foundation requirements, such as flood hazards or the potential for seismic activity. Poor soil conditions do not mean a site is unsuitable, but they may necessitate soil remediation, which requires the expenditure of labor and resources. Local code officials can assist with determining the type and properties of the building site's soil.

Proper grading and remediation of low spots or depressions prevent water from collecting or ponding, which could cause foundation failure and/or moisture damage to the home. Drainage is essential in preventing water from accumulating in the foundation area, potentially damaging the foundation and the home. Grading is the most effective tool for ensuring rainwater will not pool under the home. As a general rule, the adjacent grade should slope away from the home for a distance of 10 feet. If walls or other physical conditions prevent grading, the builder may need to install drains or swales to manage runoff and control surface water. Some home sites may require final grading after installation, normally in the form of backfilling against the foundation wall. Builders may want to budget extra time to prepare sites that have more challenging terrain and soil quality.

## 6.2. Procurement

Builders and developers can procure MH Advantage-eligible homes from manufacturers who are participating in the MH Advantage financing program. While any manufacturer of HUD Code homes may contact Fannie Mae to participate in the MH Advantage program, a current list of participating manufacturers can be found on the [Fannie Mae website](#).

The two methods for procurement of manufactured homes are:

- **Factory-direct procurement:** This procurement system is a direct sale to the developer. Price specifications and delivery date negotiations occur between manufacturers and developers. Developers either can purchase unmodified MH Advantage models or require some customization of the units to meet the project's needs. If units are customized, developers and manufacturers collaborate to arrive at a redesign. Whether the purchase is for customized units or a standard model line, it is critical that the developer and manufacturer agree on the terminology used to specify the dimensions, components, standards, systems, materials, finishes, and amenities. Factory-direct procurement may not be available to homebuilders and developers in all markets; a developer should consult with the manufacturer for specific procurement instructions.
- **Retail procurement:** Most manufactured homes that are not part of a larger construction project are sold through local and regional independent home retailers. The retailers purchase or order homes from factories and sell homes to individual consumers. Manufactured home retailers often offer financing through traditional real estate mortgages and provide delivery and installation services as part of the sale.

Retail procurement is not limited to individual purchases. However, homebuilders and developers can use this procurement method to purchase MH Advantage-eligible homes for their projects, and, essentially, they will be making a retail purchase. Builders and developers select from the MH Advantage-qualified models available through the retailer and can customize units with the factory's upgrades or options. For projects with fewer units, purchasing from a retailer offers certain advantages, such as the simplicity in consolidating purchase, delivery, and installation services in one vendor. While the cost of a home will include a retailer's profit, the developer also has the potential to reduce project costs by consolidating purchase, delivery, and installation.

While manufactured housing's bulk purchasing can be cost-efficient, it can also present challenges, which include

committing a significant amount of money at the beginning of a project rather than spreading costs across the project's life cycle. Although choosing from a wide variety of options can appeal to homebuyers, offering extensive options can reduce the savings from bulk purchasing. Consulting with manufacturers during the planning phase will help builders and developers determine which finishes can yield a high return on investment and how options could affect the manufacturing timeline.

**Note:** The MH Advantage agreement does not impose on manufacturers an obligation of project oversight. However, it does require that manufacturers select authorized retailers of MH Advantage-eligible homes and direct, advise, or otherwise inform retailers to adhere to the design and installation specifications for MH Advantage-qualified homes.

### 6.3. Manufacturing

One of the advantages of using manufactured homes in construction projects is the efficiency of factory construction, which occurs on assembly lines organized around the homes' major components and systems. Large-scale industrial tools and machinery enable factories to work with one-dimensional unit components, such as roofs, walls, and floors. Tolerances are quite tight, and, accordingly, construction must be precise to keep the assembly line moving. In general, the timeline from the planning and design phase to a move-in ready home is about four months. Changes to the estimated delivery dates of homes affect the timeline for site preparation, and it is important for builders and developers to coordinate with manufacturers throughout all phases of the project, including design, planning, and construction in the factory to adjust site preparation and construction accordingly.

The manufactured home construction process involves the following:

1. First, teams construct the frame on a horizontal bed. Steel beams and joists used to build the frame provide structural and transportation support to the manufactured home.
2. Teams install HVAC ductwork, and electrical wiring, and plumbing lines through the joists.

Spray insulation or batts placed between the members add to the energy efficiency of manufactured homes.

3. Floor installers add subflooring and finished flooring and set the furnace and water heater in place.
4. In separate areas, teams assemble the exterior and interior walls, which are then lifted by a crane, nailed to the floor joists, and secured with metal hurricane straps. The teams provide additional insulation and interior drywall.
5. The next team assembles the roof with trusses and installs exterior sheathing. Other tradespeople add more insulation and paint drywall.
6. At yet another station, factory workers install house wrap and siding on exterior walls and install roofing, windows, and doors.
7. Finally, team members install appliances, plumbing fixtures, electrical connections, television mounts, and lighting fixtures and complete the interior molding.

**Note:** Manufacturers will “ship loose” certain roofing, siding, and interior finish materials to be installed on-site after the home is set and sections are joined.

A builder may want to negotiate additional quality control measures for complex projects. These measures may include building a prototype unit before commencing a production run or performing inspections of units during production and/or prior to shipment.

## 6.4. Delivery

Once construction of a manufactured home at the factory is complete, a specialized transport company will deliver the home in sections to a prepared site. HUD Code ensures that manufactured homes are able to withstand the strain associated with transportation to installation sites, which can be several hundred miles from the factory. Although manufactured homes can withstand long distances, delivery routes must avoid sharp curves, steep changes in grade, and low-hanging wires and trees that can damage the structure.

Federal oversight applies not only to the construction of manufactured homes but also to the individuals who deliver manufactured homes, with the U.S. Department of Transportation regulating the licensing of all manufactured home transporters. Transport companies perform route-planning by using the dimensions of manufactured home sections, or modules, to determine which roads or highways are optimal for transportation. Route-planning takes into account lane width, overpass clearance, road construction, and traffic congestion. Individual states have different requirements, regulations, and procedures for permits and escort vehicles and often have varying height and weight restrictions for loads. The department of transportation in each state can provide assistance with local requirements and restrictions.

Delivery typically is included in the purchase price of a manufactured home, whether procurement occurs directly from a factory or through a retail dealer. Although some retailers use their own delivery methods, manufacturers generally contract with transport companies on behalf of the retailer.

The cost to transport a manufactured home varies with locations, but consistent factors affecting transportation costs include:

- Distance to installation site. Builders can realize significant savings by working with manufacturers that have plants close to the installation site. As transportation distances increase, costs for fuel, labor, and materials can rise steeply. Because manufactured homes weigh an average of 45 – 50 pounds per square foot, their transportation requires large amounts of fuel. The size of the modules also necessitates slow driving speeds and may require indirect routes, which affect not only fuel costs but also the costs of labor. Transporting modules long distances may even require a transportation company to invest in additional tires and equipment to handle the distance.
- Rout. Depending on the route to the installation site, transportation companies can either incur a cost for an escort vehicle or a temporary road closure.
- Permits and inspections. When transportation of the manufactured home covers more than one county

or state, the driver must have a permit for each individual jurisdiction the vehicle enters.

- Moving materials. Tools, supplies, tow hitches, and tires may affect transportation costs.
- Insurance and liability coverage. Manufactured home transporters must have unique types of coverage because standard vehicle insurance does not provide adequate protection for manufactured homes while in transit. Transporter insurance and liability coverage require equipment and property insurance, cargo insurance, general liability, and toter liability. (A “toter” is a conventional truck cab that has been modified with a longer wheelbase and is used specifically for transporting manufactured homes.)

## 6.5. Foundations

The foundation provides structural support and stability for manufactured homes. Foundation construction methods, such as pier and beam, crawlspace, and concrete slab, work in conjunction with straps or tie-downs that anchor a home to the ground. To be eligible for the MH Advantage program, the manufactured home must be placed on a foundation that will permanently attach the home to the land. To ensure that the permanent foundation can provide the manufactured home with long-term, durable support and stability, and protect it from wind, water intrusion, and seismic activity, if applicable, foundations must be built using a design certified by a licensed professional engineer and approved by a Design Approval Primary Inspection Agency (DAPIA). Precision in the preparation of the foundation is essential in order to avoid utility and plumbing problems and damage to structural elements and components of the home.

In the “Permanent Foundations Guide for Manufactured Housing,” HUD defines the requirements for a permanent foundation as:

Permanent foundations must be constructed of durable materials — i.e., concrete, mortared masonry, or treated wood — and be site-built. It shall have attachment points to anchor and stabilize the manufactured home to transfer all loads, herein

defined, to the underlying soil or rock. The permanent foundations shall be structurally developed in accordance with the standards in this Guide or be structurally designed by a licensed professional engineer for the following:

### 1. Vertical stability:

- a. Rated anchorage capacity to prevent uplift and overturning due to wind or seismic forces, whichever controls. Screw-in soil anchors are not considered a permanent anchorage.
- b. Footing size to prevent overloading the soil-bearing capacity and avoid soil settlement. Footing shall be reinforced concrete to be considered permanent.
- c. Base of footing below maximum frost-penetration depth.
- d. Encloses a basement or crawl space with a continuous wall (whether bearing or non-bearing) that separates the basement or crawl space from the backfill and keeps out vermin or water.

### 2. Lateral stability. Rated anchorage capacity to prevent sliding due to wind or seismic forces, whichever controls, in the transverse and longitudinal directions.

Federal government standards require all new manufactured homes to meet minimum standards for anchoring in accordance with its structural design and site conditions. In addition, states have the authority to establish additional installation standards above the minimum federal standards. State governments may establish installation and anchoring requirements for homes depending on soil conditions and other factors in their state. (See the “Additional resources” section for the HUD’s Permanent Foundations Guide for Manufactured Housing.)

## 6.6. Installation

Regulations for the installation of a manufactured home can vary, depending on the state where the home will be

installed. Manufacturers and retailers can be invaluable resources to builders and developers in navigating the governing regulations, licensing requirements, and local installation programs. The regulation of manufactured home installation involves three levels: federal codes known as the Model Manufactured Home Installation Standards (FMMHIS), state installation requirements, and manufacturer requirements. The FMMHIS sets out a basic level of regulation that includes foundations, tie points, plumbing, ductwork, and electrical systems. Next, state codes can supplement the federal code based on local conditions like average climate and soil quality. State codes must meet or exceed the FMMHIS; they cannot implement standards that are less strict. Finally, manufacturers' installation instructions supply more detailed instructions.

To ensure that these instructions also meet federal standards, manufacturers must submit installation instructions to HUD for every make and model of home they produce. It is important to note that a manufacturer's warranty may be voided unless the installation procedures follow the manufacturer's manual to the letter. While the manufacturer typically offers a basic structural warranty, many third-party warranty providers exist for manufactured homes that can ensure structural components and home systems or appliances with generally identical coverage to traditional site-built homes. Developers may request a list of warranty providers from the manufacturer.

HUD regulates the installation of manufactured homes in all states either by administering the state's Manufactured Home Installation Program or by granting full or conditional approval to a state to administer its own qualifying installation program. The Manufactured Home Installation Program Regulations (24 CFR Part 3286) require all state programs to train and license installers working in each state and to administer an installation inspection program meeting the federal requirements.

In states not choosing to administer their own manufactured home installation program, HUD ensures that manufactured home installers are trained and licensed and administers an inspection program.

In addition to meeting federal, state, and manufacturer installation standards, successful installation requires the following:

- A suitable site
- Site preparation
- An appropriate foundation

If it is necessary to place a manufactured home in a temporary location before installation, the sections of the home must be supported temporarily in accordance with the manufacturer's instruction for temporary installation.

While each installation is different, the following list sets out a generalized version of the task sequence for crews installing a manufactured home.

1. Installers first remove the materials that protected the home during delivery. They inspect the home and all provided materials, appliances, and equipment, and report any damage or shortages to the manufacturer.
2. Workers install polyethylene sheeting or other moisture retarders over the ground based on the manufacturer's instructions or local building codes.
3. Installers position the first (heaviest) section on its foundation. Using a combination of hydraulic jacks, rollers, and winches, they move the section into position and remove the running gear. The installers repeat this process with the second section and align it with the first section.
4. Next, installers block and level the home. They make height adjustments as necessary to align the floors, roof, and intersecting walls, and fasten or "marry" each section together in accordance with the manufacturer's instructions and HUD Code.
5. Installers then anchor the home to its foundation. (The setting of tie-down anchors may be placed before the setting of the home.)

6. Workers backfill against the foundation wall to the height of the waterproofing while taking care to not damage the drainage system.
7. Next, workers install gutters and downspouts. If the home has a hinged roof that workers folded for shipping, they seal the roof along the ridgeline. Workers finish the roof by shingling over the ridge cap.
8. Installers connect heating and ventilation ducting, make all crossover connections for the electric and plumbing systems between the sections, and connect the home's utility services. Workers also pressure test the water system, perform a power check, and test appliances and smoke alarms.
9. Workers then seal the marriage line between the sections and complete interior finishes, repairing any drywall stress cracks caused by transportation. The workers also install or finish flooring and trim and install items such as drapes, blinds, mirrors, closet shelves, and hardware.
10. Workers install porches and steps with handrails, as appropriate.
11. Finally, workers remove debris and conduct a thorough cleaning to ready the home for occupancy.

## 6.7. Inspections

After the installation process is complete, the agency representing the local building authority inspects the home. If the home passes the inspection, authorities will issue a Certificate of Occupancy. If the inspection fails, the inspector will issue a Correction Notice detailing the items to address before calling for a re-inspection. State and local building codes may require various parties to

inspect the home during the installation process. The installation inspection commonly occurs after the home is leveled and anchored to the permanent foundation. During the final stages, builders will also complete the driveway and sidewalk, install a garage or carport, and finish the site's landscaping. Those structures added on-site may be subject to separate inspections in addition to the installation inspection mentioned earlier.

## 6.8. Selling homes to aspiring homebuyers

The consumer's experience of buying a modern MH Advantage home in a new development should be similar to the experience of purchasing a site-built home. Builders should invest time and resources into replicating the familiar process of touring a model home and offering prospective consumers a glimpse of the amenities and streetscapes that may accompany the new development. Another consideration is that homes built to the MH Advantage standard should appeal to consumers who would otherwise consider a site-built home if not for current affordability challenges. It should be understood that these consumers have likely become accustomed to beginning their searches for any goods or services through an online platform. Sophisticated builders should explore opportunities to promote MH Advantage-eligible homes through modern sales channels, such as digital and social media.

Regarding the mortgage financing experience, it is advantageous for a homebuilder to engage with a lender who has experience in the MH Advantage financing program. By collaborating with the right partners, the homebuilder will enable homebuyers to select, finance, and move into a home financed with the MH Advantage loan.





## 7. Challenges to Constructing Developments with MH Advantage-Eligible Homes

### 7.1. Perception of manufactured homes

The following sections discuss common misconceptions and ways builders can mitigate negative perceptions to ensure the success of MH Advantage projects.

#### 7.1.1. Quality and appearance

A general misconception is that today's manufactured home is not on par with a site-built home. Although this view is not accurate, homebuilders and developers should seek ways to mitigate this misperception. In focus groups, Fannie Mae discovered that consumers do not have a fixed perception of modern manufactured homes, and several factors can have a positive influence:

- Consumers could not tell the difference between site-built and MH Advantage-eligible homes, with 83% of surveyed respondents inaccurately labeling an MH Advantage-eligible home as site-built.<sup>17</sup>
- Interest in these homes increased by 31% when prospective buyers looked at pictures of the amenities and design choices available both inside and outside of today's manufactured homes.<sup>18</sup>
- Perceptions of quality and value also increased as consumers began to understand the benefits of MH Advantage financing.

- The affordability and customizable nature of manufactured homes also appealed to respondents, whose interest increased when they learned that manufactured homes cost less.

Respondents experienced a positive mindshift that was both rational and emotional. They felt they could purchase a beautiful, newly built, sturdy home with features and upgrades they had previously thought were out of their budget's reach.

#### 7.1.2. Zoning

Before a project can begin, builders and developers must have planning clearance, which is the local planning board's evaluation of the property to determine whether the proposed development complies with land use and environmental regulations. Planning clearance may be required to apply for and receive building permits.

Despite the many advantages of manufactured housing, local zoning rules, subdivision ordinances, architectural design standards, and other requirements often limit where manufactured homes can be located. Zoning laws divide the land into different classifications, or zones, and determine the land's use. Even within areas designated

<sup>17</sup> [Why Generating Interest in Manufactured Housing is About Showing, Not Telling \(MH Insider, 2020\)](#).

<sup>18</sup> [Why Generating Interest in Manufactured Housing is About Showing, Not Telling \(MH Insider, 2020\)](#).

for residential use, local laws can create a barrier for the placement of manufactured homes by imposing the condition that homes must be built to locally adopted building codes. This can exclude manufactured homes from residential zones because they are built to federal, not local, codes.

To determine if zoning laws allow subdivisions of manufactured homes, builders can obtain a copy of zoning maps and applicable ordinances from local planning or building departments. Where restrictions on land use prevent the development from being built, builders may make changes to the development's design to fall in line with the zoning's ordinances. Or, if modifications cannot be made, builders can request a zoning exception or change. Consulting with attorneys specialized in zoning can help builders interpret the ordinances and determine the best way to obtain the necessary permits. According to the Planners' Advocacy Network, the easiest way to obtain a permit, in this case, is to request a zoning exception with either a use permit or a zoning variance, as defined below:

- **Use permit:** Also known as a conditional use permit, this permit grants the landowner the ability to use the property in a way that normally is not permitted under the current zoning regulations. Typically, these permits come with stipulations. For instance, if a zone has been changed to a commercial zone, a special use permit for a residential subdivision may come with limitations on the size or number of homes.
- **Zoning variance:** A variance typically is granted only when the landowner can demonstrate that special conditions on the land are creating an undue hardship that makes it difficult to comply with the zoning requirements.

It is rarely easy to change land classification because proposed changes to property zoning must align with the local master land-use plan. Procedures for requesting a land classification change vary depending on the location and local ordinances. In most cases, requestors must submit a written application and pay a fee. Requestors may have to present the case to the local zoning board during

a hearing. Developers should be prepared to present the board with project details and provide convincing reasons to persuade the board to grant the request.

More importantly, developers often must prove that the intended use will not have a negative effect on the neighboring community before a local zoning board grants a variance or a change in the land's classification.

## CASE STUDY

### Education yields zoning win in Panama City, FL

In June 2020, Panama City amended its Unified Land Development Code to recognize Residential Designed Manufactured Homes (RDMH) in areas zoned for residential use. Prior to this amendment, manufactured housing was prohibited in residential zones of Panama City. The manufactured housing industry educated city officials on MH Advantage's potential to help rebuild the city after Hurricane Michael devastated much of the area's housing stock. This awareness prompted the city to amend its code in June. This amendment opened up MH development opportunities in Panama City. There are opportunities for this type of engagement in jurisdictions across the country. As a leader in affordable housing, Fannie Mae could also be a leading voice in these conversations.

Unless factory-built housing receives state preemptions from local zoning ordinances, local jurisdictions are free to develop specialized regulations targeting factory-built housing that can severely limit its placement location and method. Also, without state protections, covenants and restrictions may also contain provisions that either significantly limit or prohibit the use of factory-built housing.

Recognizing the potential for some types of factory-built housing to provide affordable homeownership opportunities, some jurisdictions passed laws that make it easier to site manufactured homes. As an example, California law permits the placement of manufactured homes built in accordance with local codes on any residential lot (California Health and Safety Code 1980).

While regulatory hurdles certainly can present barriers, it is important to note that even when regulatory issues are not a concern, market factors can have a statistically significant impact on the placement of manufactured homes. These factors include regional location, population density, median household income, the existing inventory of manufactured housing units, and proximity to manufactured housing plants.

## 7.2. Appraisals

Many manufactured homes are financed with chattel (or personal property) loans, which do not require appraisals. As a result, many appraisers lack experience in manufactured housing. Furthermore, because MH Advantage is a new program with unique home features and specific appraisal requirements, there can be uncertainty about those requirements, or the process may seem too complex. To reduce the perceived complexities of MH Advantage appraisals, Fannie Mae offers training and resources, including:

- Free e-training and a suite of appraisal support materials, available in a single location at [fanniemae.com/mhappraiser](https://fanniemae.com/mhappraiser).

- E-learning course with continuing education (CE) credits, developed in collaboration with McKissock Learning, a leader in appraiser education. Earning CE credits incentivizes participation in the course, as appraisers need CE credits to maintain licensure/certification.

In addition to McKissock Learning's own outreach efforts, Fannie Mae has promoted these resources to appraisers nationwide to raise awareness. Furthermore, as the adoption of MH Advantage-eligible homes continues to grow, appraisers will benefit from gaining experience on how to appraise this property type.

Since MH Advantage is a new product, relatively few MH Advantage home sales are available in many markets. Based on Fannie Mae's *Selling Guide* requirements, appraisers must use other MH Advantage homes, when available, for the comparable sales. If fewer than three MH Advantage sales are available, then the appraiser must supplement with the best and most appropriate sales available, which may include site-built homes. See [Selling Guide, B4-1.3-08, Comparable Sales \(10/02/2018\)](#) for additional information.

Appraisers may not create comparable sales by combining a vacant land sale with the contract purchase price of a home. However, a created sale can be added as additional support for value — slotted in as additional sale in the sales comparison approach section or in the addendum. The goal is to ensure a credible appraisal that reflects the market value, condition, and marketability of the property.

Since it is a manufactured home, appraisals must be completed using the HUD Form 1004C form. However, unlike a standard manufactured home appraisal, two manufactured home sales are not a requirement. (Links to MH Advantage appraiser training, checklists, forms, and guides are in the “Additional resources” section in the appendices.)



## 8. Subdivisions in Progress

### 8.1. MH Advantage-eligible homes in a fast-growing market

#### Summary

The Fruition Colorado subdivision, located at the center of the largest energy-producing area in Colorado, will help grow the town of Keenesburg through robust infrastructure enhancements like housing and commercial and public spaces. This is a master planned community consisting of ~3,500 acres within Weld County. It will become the center for industrial development and will maintain the water within the community and Northern Colorado. The development will feature as many as 2,500 MH Advantage-eligible homes, with its rollout occurring across multiple phases.

The first phase includes ~500 MH Advantage-eligible units. Each manufactured home featuring MH Advantage characteristics has an estimated savings of \$65K per unit compared to a site-built home. This subdivision will result in over \$30 million in savings for working-class families in the area. Home sales may begin during the first phase in late 2021, with a second development phase planned for 2023. Homeowners could move in starting Q1 2022. This land is fully entitled and zoned to allow for manufactured housing.

#### Development team

HOLDco

#### Manufacturer

Multiple HUD code manufacturers agreed to produce the MH Advantage-eligible homes for this phased development, including:

- Skyline Champion Corporation, a leading manufacturer of HUD code manufactured homes headquartered in Troy, Michigan.
- Clayton Homes, a national builder of off-site and on-site built homes.

This subdivision will result in over \$30 million in savings for working-class families in the area.<sup>19</sup>

<sup>19</sup> Based on market study done by HOLDco.

## Key takeaways

The key to success in developing Fruition Colorado is to create a new, high-quality, sustainable, and diverse community that provides attainable housing for the Town of Keenesburg. Fruition Colorado will show how site-built and MH Advantage-eligible homes can bring affordability and faster development time into the subdivision model to deliver incremental business growth for developers and more attainable options for consumers.

Many municipalities may have a preconceived notion of what constitutes a ‘manufactured home’ community. An effective tool for the Fruition Colorado development has been to provide strong, upfront examples to city and town officials and to communicate what these new homes consist of: well-designed interiors and exteriors that fit into the neighborhood alongside quality fixtures, materials that are reasonably priced, porches, and attached garages. Furthermore, the Fruition Colorado development used a Planned Unit Development of the town’s zoning code to reduce the minimum lot size. As a result, the developer will be able to ensure the community features a number of amenities, including greenways, park systems, sidewalks, and ample open space.

Prior to embarking on any residential design of this type, it’s best for builders and developers to effectively communicate all of the components mentioned above. This will help build trust with key community members.

## Community images



Phase one: Streetscape



Aerial view



## 8.2. High-quality manufactured housing to meet growing demand

### Summary

The diverse city of Oroville is a little over an hour north of Sacramento, California. Oroville has ample opportunity for housing and recreational activities. In recent years, strong economic activity in the surrounding regions has sparked an interest in Oroville as an appealing, affordable destination for homeowners. The city reported a population growth of 20% year-over-year in August 2019<sup>20</sup> and the 2018 Camp Fire that destroyed homes in the nearby town of Paradise has left the city with a substantial need to quickly ramp up the supply of affordable housing.

The project, a partnership between Skyline Champion Corporation and west-coast builder W&R, will consist of 134 MH Advantage-eligible homes installed and sold in three phases. The subdivision will consist of home sites, walking trails, four commercial lots, and associated infrastructure and landscaping improvements in the western portion of the site, and approximately 13.8 acres of open space in the eastern portion of the project site. The first model units may begin installation in mid-2022. It is estimated that the newly built MH Advantage-eligible homes will cost nearly \$100,000 less than comparable site-built

properties in the Oroville area. MH Advantage-eligible homes don't compromise on quality and aesthetics, and this development is further proof that they're also cost-effective.

### Development team

W&R has extensive experience building communities of off-site built homes.<sup>21</sup>

It is estimated that the newly built MH Advantage-eligible homes will cost nearly \$100,000 less than comparable existing site-built properties in the Oroville area.

20 Natalie Hanson, "[Oroville could be fastest-growing Northern California city, despite Camp Fire housing crisis](#)," Chico Enterprise-Record, last modified February 19, 2020.

21 "[Portfolio](#)," W&R Wedgewood, accessed July 6, 2021.

## Manufacturer

Skyline Champion Corporation is a leading manufacturer of HUD-code and modular homes with 17% HUD Code market share in 2018.<sup>22</sup>

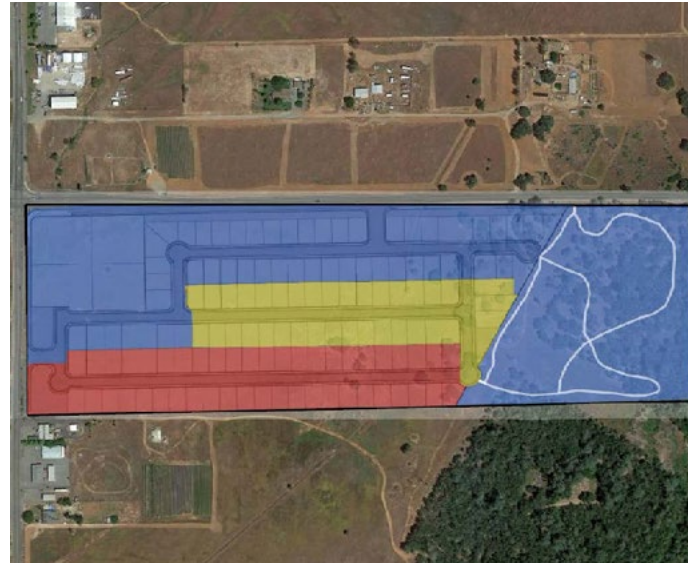
## Key takeaways

This is the first large-scale real estate project leveraging the new line of Genesis Homes, an MH Advantage-eligible line of homes created by Skyline Champion. To ensure the project was completed in a way that was comfortable for all stakeholders while also ensuring a thoughtful branding and marketing strategy, Skyline Champion enlisted the expertise of Vanguard National Builder Group. To create a “plug-and-play” sales model, the brand strategy group worked to understand the prevailing economics of the Oroville region, including consumer sentiment and behavior. The group tested the model in Oroville and expects to quickly scale to opportunities in other markets across the country. Homes in the Oroville subdivision will be available for sale across a variety of platforms, including online and on-site.

Another key takeaway was the interest and willingness of the manufacturer and developer to connect with mortgage lenders in the area well in advance of the completion of the construction project. The goal was to understand their ability to provide mortgage financing for the homes in question. Depending on the sales process for a given project, a lender may need to provide either

online or on-site resources and support for prospective borrowers. Understanding the sales strategy and clearly communicating it to lenders can help builders and developers ensure that their prospective customers have access to a wide variety of mortgage financing that meet their needs.

## Community aerial view



● Phase 1 ● Phase 2 ● Phase 3

Note: This figure is for informational and discussion purposes only. The areas shown are approximate, but are representative of the project intention.

## Available models

### River Ranch (Oroville, CA)



<sup>22</sup> “Skyline Champion Corporation – Overview,” Skyline Champion, accessed July 6, 2021.



### 8.3. An innovative solution to address the affordable housing shortage

#### Summary

The Housing Land Trust (HLT) of Sonoma County, California, was looking for innovative solutions to address the shortage of affordable housing in disaster recovery and high-cost areas. They found that an MH Advantage unit could address their affordability and construction needs in a number of ways. Through a project called Jamie Lane, they leveraged MH Advantage homes and the community land trust model to create new affordable homeownership units in this high-cost area.<sup>23</sup> Local, state, and national partners have come together to make this innovative strategy a reality in Cotati, California. The HLT is currently exploring the potential to replicate this model to create an additional 22 affordable homeownership units in the City of Petaluma, California. The community is located in the North Bay sub-region of the San Francisco Bay Area, 37 miles north of San Francisco.

HLT has chosen the MH Advantage-eligible homes for three main reasons. First, the prefabricated product brings decreased costs of construction. Second, the homes are designed with features comparable to site-built homes, thereby minimizing neighbors' concerns about stylistic fit within the neighborhood and on-site disruption during construction. Third, the manufacturing process reduces the overall time needed for construction.

#### Builder

Renew Now Homes is a California-based manufactured homebuilder that participates in Fannie Mae's MH Advantage program and has experience delivering MH Advantage-approved manufactured homes in Sonoma County.

#### Partners

HLT of Sonoma County partnered with Renew Now Homes, the county and CalHFA.

As a result of the layering of the different subsidies, the homes will be sold "at cost" with a maximum sales price of \$391,000.<sup>23</sup>

<sup>23</sup> Dev Goetschius, Cali Slepín, and Julian Tucker, "[A New Approach for the Rapid Production of Affordable Homeownership Opportunities: Manufactured Homes + Infill Sites](#)," Housing Land Trust of Sonoma County, accessed July 6, 2021.



## Key takeaways

The city recognized the need to preserve long-term affordability and allowed parcels of land to be donated to HLT for the stewardship of affordable housing. By combining the community land trust model with a cost-efficient home, the city is getting a deeply affordable product without compromising on quality while also helping to achieve multiple regional housing production goals.

## Replicating the model

HLT of Sonoma's goal is for other community land trusts to leverage this model as a prototype for affordable homeownership that targets disaster recovery areas, communities with limited land supply and/or underutilized land (including infill parcels), and places where high labor and construction costs make it difficult to build housing. HLT is currently seeking to replicate this program in the City of Petaluma in Sonoma County. The city is in the process of identifying land and funding, and HLT will employ the same team, methodology, and products to rapidly bring innovative, affordable homes to this community.

## Community images



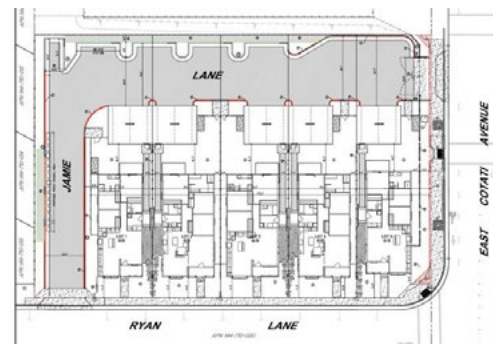
Aerial image of the site



Front elevation of proposed homes



Rendering of a comparable renew now home



Site plan



## 8.4. Adapting business models to bring affordable housing to scale

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### Summary

The Cordell Oaks subdivision is located in Guadalupe County, Texas, in the San Antonio metropolitan area. As its population continues to grow, home prices continue to increase. The metro area population of San Antonio in 2021 is 2,368,000, which is a 2.07% increase from 2020.<sup>24</sup> During the 12-month period ending July 2020, the average sales prices for new and existing homes increased 5%.<sup>25</sup> The city of New Braunfels is the second largest city in the area and 30 miles northeast of the city of San Antonio. The military has a large presence in the area, and its effect on the local economy is significant.

The homebuilder who developed this community has extensive retail sales experience in manufactured homes. This builder chose MH Advantage-eligible homes to offer affordable housing with prices substantially below comparable homes in the area. The resulting Cordell Oaks subdivision features 21 one-acre lots and serves as the first full MH Advantage-eligible community in Texas.

The home prices start at \$201,995, and the floor plans feature open layouts, asphalt driveways, and a standard 384-square foot garage. Offers for similar site-built homes on an acre of land currently sit at a \$300K price-point in that area. The community's design accommodates homebuyers looking for affordable but quality living. As of Q2 2021, all of the lots which will feature MH Advantage-eligible homes have been pre-sold, with the home shipments being fulfilled throughout the year.

The sales model is to build an entire move-in-ready product for buyers. Buyers do not deal with any subcontractors, and the price they are presented includes all improvements, land, the garage, and the home. They are also able to go under contract on homes that are "to be built," but the closing occurs when the home is complete. This is different from the sales process at traditional MH retailers.

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24 ["San Antonio Metro Area Population 1950 - 2021,"](#) Macrotrends, accessed July 6, 2021.

25 ["Comprehensive Housing Market Analysis, San Antonio-New Braunfels, Texas,"](#) U.S. Department of Housing and Urban Development, Office of Policy Development and Research, accessed July 6, 2021.

## Development team

Spark Homes is a small homebuilding company that specializes in offering MH Advantage-eligible homes.<sup>26</sup>

## Manufacturer

The company orders homes from Champion Home Builders, a manufactured home company that operates as a subsidiary of the Skyline Champion Corporation.

## The community model offerings



Model  
option 1



Model  
option 2



Model  
option 3

## Key takeaways

Partnership with the right lender was the key to this project's success. A homebuilder designed this community to become a pilot program to showcase a few MH Advantage-eligible model homes to local municipalities. The goal was to continue developing similar subdivisions in the area. Prior MH sales experience allowed this homebuilder to quickly understand the financing benefits of MH Advantage and collaborate with the right stakeholders to serve this community. The company established a buyer-friendly home sales process, which allowed homebuyers to coordinate the additions of garages or carports directly with a contractor who specialized in building these add-on features. Early in the development process, the builder partnered with a lender knowledgeable in MH Advantage financing, which helped many potential homebuyers obtain conventional financing for their future homes. By collaborating with key partners early in the development process, the homebuilder enabled homebuyers to efficiently select, finance, and build the homes eligible for MH Advantage financing.

The builder also found the right MH Advantage-eligible models best suited for his community and coordinated an efficient delivery schedule of those homes with the manufacturer. As a family-owned small business, the developer enabled lean but efficient processes that translated into additional cost savings for his company. The builder is already looking into new development opportunities in the area.

The home prices start at \$201,995, and the floor plans feature open layouts, asphalt driveways, and a standard 384-square foot garage.

26 "Manufactured Homes for Sale in New Braunfels, Texas," Spark Homes, accessed July 6, 2021.



## 8.5. Kilpatrick Woods — workforce housing in the northeast

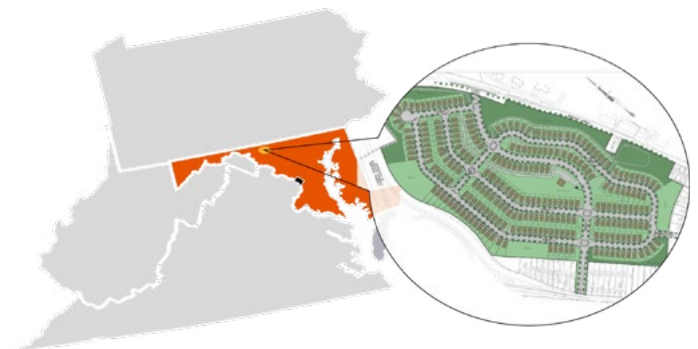
### Summary

Kilpatrick Woods will be a community of 241 high-end, factory-built, single-family homes within the city limits of Hagerstown, Maryland. The pricing for these homes will range between \$181,000 (2BR) and \$223,000 (4BR), and the homes will be marketed to first-time homebuyers with incomes at 80% – 120% of the Area Median Income. Civil servants and employees lured to the area due to the growth in warehouse and distribution jobs are currently shut out of the housing market, a problem this community aims to solve.

The city of Hagerstown is experiencing significant job growth in the warehouse and distribution sectors, anchored by the North Point development four miles from the site. The North Point development could generate 1,500 new jobs. In addition, the housing market is facing an acute market shortage, particularly at entry-level price points. No new construction within this price range is currently taking place in the area. Kilpatrick Woods will fill that gap with quality affordable manufactured homes for moderate-income individuals and families.

### Site overview

- 241 MH Advantage-eligible homes on 5,000 sq. ft. lots surrounded by green space.
- Amenities include a clubhouse, nature trails, and playgrounds.
- Integrated with the city's street grid with public roads.
- Ease of access to I-81, public schools, public transit (.3 miles), and businesses.
- Enterprise Green Community-certified.



Site location and aerial view

## Development team

The subdivision will be developed by PB Hagerstown, Next Step, and a partnership of the following three firms: a finance company, a general contractor, and a factory-built advisory.

## Manufacturer

Eagle River

## Key takeaways

For any unique real estate development project supporting low- to moderate-income homeownership opportunities, multiple sources of funding are often necessary to finance the acquisition of buildable land and the construction of the single-family homes.

In addition, one of the keys to assembling a coherent project plan for a development leveraging manufactured homes is ensuring detailed knowledge of the construction and regulatory processes. For Kilpatrick Woods, the team leveraged the expertise of MH Advisors, a D.C.-based advisory services group focused on issues in housing finance. This collaboration ensured the development team was aware of and could anticipate any differences in the home construction process that might impact the project's bottom line.

## Community images



One of the four model offerings



One of the four model offerings

MH Advantage-eligible homes are gaining traction as an affordable alternative to site-built construction.



## 9. Conclusion

Homebuilders and developers have the opportunity to introduce more affordable home options into the marketplace by leveraging manufactured homes built to the MH Advantage standard. The inherent efficiencies in the manufactured home construction process carry the potential to reduce overall construction cost and reduce turn times — allowing those cost savings to be borne out in the consumer’s purchase price. These benefits allow builders and developers to not only make a profit but also tackle the affordable housing supply crisis in the U.S. Although the possibilities of MH Advantage homes in a development setting are exciting, this product is still very new to most markets in the U.S. Through our work with manufactured housing manufacturers and developers, and our overview of subdivisions in progress, we’ve identified some key factors that will help ensure a successful subdivision project:

- Cross-functional partnerships are vital. Connecting nonprofits, government entities, homebuilders, lenders, and third-party advisors can help ensure that the needs of all parties are met without compromising the consumer’s wants and needs.
- Developers and homebuilders should engage with manufactured housing manufacturers to fully understand the construction and installation processes for manufactured homes.

- Successful projects have a coherent marketing strategy. Outdated perceptions of manufactured homes are arguably still the largest barrier to greater consumer and developer adoption.
- Developers and manufacturers who work together to understand the local socioeconomic trends for a given geographic market and produce home options that meet the needs of those customers are far more likely to be successful.
- Developers and homebuilders who want to provide the best mortgage financing packages that are available for their prospective customers should connect with mortgage lenders early and often to ensure loan officers in the area are familiar with conventional financing options for manufactured homes.

The following appendices provide further resources for homebuilders, developers, and other industry stakeholders.

## A1. Manufactured home oversight and regulations

Federal Manufactured Home Construction and Safety Standards (FMHCSS), commonly known as the HUD Code, regulate manufactured home design and construction, strength and durability, transportability, fire resistance, and energy efficiency. They also set performance standards for the heating, plumbing, air-conditioning, and electrical systems of manufactured housing. The FMHCSS ensure the quality and safety of manufactured homes.

The 1976 implementation of FMHCSS originated when Congress passed the National Manufactured Housing Construction and Safety Standards Act in 1974 (42 U.S.C. § 5401 et seq.). At the time, the United States had three model building codes with many state and local modifications. The Act authorized HUD to establish and enforce construction and safety standards for factory-built manufactured housing for three interrelated reasons. First, prior to the advent of the HUD Code, manufacturers ordinarily did not know which state building code to use when constructing the homes due to the interstate shipment of homes from the factory to the retailer to the home site. Allowing manufacturers to build to a single construction standard that preempts state and local codes eased the administrative burden on manufacturers while establishing consumer protections. Second, states were not able to regulate manufactured home construction and safety effectively and uniformly. Federal supervision of building standards reduced the burden on states that lacked adequate resources. Third, Congress wished to preserve access to affordable housing for middle- and lower-income families. A uniform code that was applicable to all states decreased manufacturing costs while ensuring a minimum level of safety, thus reinforcing manufactured housing as a safe and affordable housing option.

### A1.1. Design approval

HUD Code requires an approved set of model plans for each home model the manufacturer wishes to construct. The review and approval of these model plans serve the same function as the local government plan review for site-built housing. Some third-party agencies also act as a Primary Inspection Agency (PIA). The two types of PIA are Design Approval Primary Inspection Agencies (DAPIA) and Production Inspection Primary Inspection Agencies. DAPIA approve a manufacturer's home design to ensure the plans are consistent with the HUD code. Manufacturers contract directly with a state or private third-party agency and pay for design review and home inspection services.

### A1.2. In-plant quality assurance and third-party inspections

Federal regulations require the construction of manufactured homes in HUD-certified factories that are capable of producing homes that meet HUD Code standards. To achieve HUD's certification, manufacturers must contract with a HUD-approved, third-party entity to inspect and certify that the completed homes were manufactured under an in-plant quality control program. The HUD label affixed to the exterior of each home section indicates compliance with the HUD Code.

Many state governments, in cooperative agreements with HUD, have designated a State Administrative Agency (SAA) to conduct periodic checks of manufacturing plant records and respond to consumer complaints. For states without SAAs and for the District of Columbia, HUD provides these functions. HUD has approved 13 state and private third-party agencies to conduct inspections of manufacturers' production facilities. The federal code also dictates certain procedures the manufacturer/retailer must follow should they become aware of a problem with a home after it has been shipped from the manufacturing facility (24 CFR Part 3282.401-416, Manufactured Home Procedural and Enforcement Regulations).

### A1.3. Installation

Installation is perhaps the single most important factor in ensuring the safety and durability of a manufactured home. While the FMHCSS regulate manufactured homes before they leave the factory, the Federal Model Manufactured Home Installation Standards (FMMHIS) govern the installation of the home on-site. The Manufactured Housing Improvement Act of 2000 granted

HUD the authority to establish the installation standards as part of the Manufactured Home Installation Program. Although the installation standards do not have the same preemptive effect as the construction and safety standard, they do establish minimum requirements for manufacturers to implement through their installation instructions. These directions include methods for performing a specific operation or assembly and work performed on-site as part of the placement of the home, such as the foundation, anchorage, and post-placement connections of utilities and some appliances.

Manufacturers also must provide DAPIA-approved installation instructions for each new manufactured home. The approved installation instructions ensure the support and anchorage of each home are capable of meeting or exceeding the design loads MHCSS requires. When site conditions require a type of foundation other than what is prescribed in the installation instructions, a professional engineer or registered architect must prepare and certify that the alternate foundation meets or exceeds the federal standards and it is compatible with the home.

Installers must be licensed by HUD or the SAA for the state in which they are installing homes. To obtain a license, an installer must meet certain experience and/or education requirements. Licensing requirements include completion of a HUD-approved training program, maintaining adequate bond or letter of credit and insurance, and submission of an application to HUD or the SAA. (See HUD Form 307: HUD Manufactured Home Installer License Application in the “Additional resources” section.) Installers typically are required to take approved continuing education courses to renew their licenses.

Under HUD regulations, installers are responsible for obtaining an alternate design that has been prepared and certified by a registered professional engineer or architect when suitable designs and instructions are not available from a manufacturer. To ensure safety, the alternate design must stay consistent with the manufactured home design and conform to the requirements of the MHCSS.

A HUD-qualified inspector must inspect the completed installation. This inspector certifies that the installation of a manufactured home is in accordance with the manufacturer’s installation instructions. States can choose to operate their own installation programs in lieu of the federal program, but they must implement installation standards that provide residents protection equal to or exceeding the protection provided by FMMHIS. (The “Additional resources” section provides links to HUD installation forms.)

#### **A1.4. Site-built structures**

Although site-built structures are built to state and/or local codes rather than federal code, HUD does regulate site-built structures or alterations made at the time of the manufactured home’s installation (24 CFR §3285.3). HUD requires the evaluation of any alteration to a manufactured home that could affect compliance with the HUD Code. Alterations include any additions (such as garages, decks, or porches), modifications, or replacement or removal of equipment and cannot affect the manufactured home’s compliance with the HUD Code or impose additional loads on the manufactured home or the foundation.

For a site-built structure or alteration to be permitted, it either must be included in the manufacturer’s DAPIA-approved designs and installation instructions or designed by a registered professional engineer or architect in accordance with the manufacturer’s instructions.

#### **A1.5. Code and standard updates**

The Manufactured Housing Consensus Committee (MHCC) is a federal advisory committee overseen by HUD’s Office of Manufactured Housing Programs. The committee consists of 21 voting members representing manufacturers, retailers, consumer organizations, and public officials with an interest in manufactured housing. MHCC recommends changes to both the construction and safety code and installation standards and cooperates with other federal agencies, such as the Department of Energy and the Environmental Protection Agency on crosscutting issues.



## A2. Additional resources

### Fannie Mae

#### MH Advantage appraisals:

[MH Advantage for Homebuilders and Developers](#)

[MH Advantage Appraiser Checklist](#)

[MH Advantage Appraiser Training](#)

[Form 1004-C: Manufactured Home Appraisal Report](#)

[Selling Guide, B2-3-02: Special Property Eligibility and Underwriting Considerations: Factory-Built Housing](#)

[Selling Guide, B5-2-03: Manufactured Housing Underwriting Requirements](#)

[Selling Guide, B4-1.2-03: Requirements for Postponed Improvements](#)

[Selling Guide, B4-1.4.01: Factory-Built Housing: Manufactured Housing](#)

[Manufacturers Participating in the MH Advantage Financing Program](#)

#### MH Advantage case studies:

[Fruition Colorado in Keenesburg, CO](#)

### U.S. Department of Housing and Urban Development (HUD)

#### Programs:

[HUD Office of Manufactured Housing Programs](#)

[Manufactured Home Construction and Safety Program](#)

[Manufactured Home Dispute Resolution Program](#)

[Manufactured Home Installation Program](#)

[Manufactured Housing Consensus Committee \(MHCC\)](#)

[Additional Resources and Updates](#)

[Manufactured Home Consumer Resources](#)

#### Guides and forms:

[HUD Resources for Installation and Setup](#)

[HUD Guide to Permanent Foundations](#)

[HUD Form 305: HUD Manufactured Home Retailer Report — Home Tracking Information](#)

[HUD Form 306: HUD Manufactured Home Retailer Report — Home Installation Information](#)

[HUD Form 307: HUD Manufactured Home Installer License Application](#)

[HUD Form 309: HUD Manufactured Home Installation Certification and Verification Report](#)

## G1. Types of housing

**Factory-built and prefabricated housing:** The distinguishing factor for factory-built housing versus site-built housing is whether the components of the construction took place at the location of the permanent foundation. A factory-built home includes significant structural components built away from the permanent foundation, while the components of a site-built home are constructed at the same location as the permanent foundation.

**Manufactured home:** Manufactured homes often get mislabeled or confused with several other types of factory-built homes designed for long-term residential use. Factory-built housing is a generic term for a housing product characterized by most or all components of a housing unit constructed at an industrial facility. Manufactured homes are unique among all types of prefabricated housing because they are the only type of housing designed, built, and installed under federal building codes. Other prefabricated housing, such as panelized and modular homes, have a variety of state and local building codes to meet. Manufactured homes consist entirely of factory-built units, and nearly all components are constructed at the manufacturing plant rather than on-site. Once the bulk of the home's assembly is complete at the factory, workers transport one or more units of the home and install it at the building site.

**Mobile home:** The use of the terms “mobile home” and “manufactured home” is sometimes interchangeable. A mobile home technically is a factory-built home constructed prior to the 1976 establishment of the HUD Code. Before the HUD Codes, state and/or local jurisdictions manufactured mobile homes to their building standards. Mobile homes grew out of an evolution within the travel trailer industry as recreational trailers were adapted and upgraded for long-term residential use. Prior to the adoption of the HUD Code in 1976, mobile homes were not regulated by the federal government. In addition, despite their design for long-term residential use, mobile homes were viewed by state and local governments as personal property, not real property, and their construction lacked the same level of supervision and regulation as site-built homes. The absence of government regulation combined with their low cost led to a perceived — although not always warranted — lower level of quality, and mobile homes became stigmatized and stereotyped as inferior and undesirable housing.

Concentrations of manufactured housing in residential communities or “parks” reinforced this negative perception, even though most units are outside these communities.

**Modular home:** The construction of modular homes takes place at a factory in multiple three-dimensional boxes or modules. Upon completion, an authorized third-party inspector inspects and certifies the home so it's in compliance with the appropriate state and/or local building standards. These components transfer to the intended site of use so they can join together upon a foundation. The difference between modular homes and manufactured homes is that they are built to state and/or local codes rather than a federal building code. The construction of modular homes happens in sections at the factory with almost all exterior and interior components of the modules completed at the factory. Modular homes may be constructed with or without a permanent chassis, and the construction of the installation on permanent foundations is in accordance with state and/or local building codes.

**Off-site construction:** The planning, design, fabrication, and assembly of building elements at a location other than the final installed location to support the rapid and efficient construction of a permanent structure. Such building elements may be prefabricated at a different location and transported to the site or prefabricated on the construction site and then transported to their final location. Off-site construction is characterized by an integrated planning and supply chain optimization strategy.

**Panelized and pre-cut homes:** Panelized houses consist of factory-built sections. The “panels” are large wall sections that are partially or fully completed in a factory. They are the structural foundation of the house. Typically, the panels include windows, doors, wiring, and outside sheathing, but they can also produce “turn-key” sections with all components, exterior siding, and interior drywall and finishes completed. Once the panels are inspected at the factory, workers transport them to the building site for assembly. Like modular or factory-built housing, panelized homes must meet applicable state or local building codes. Pre-cut homes are essentially kit homes. All of the building materials are cut to specifications and assembled at the factory. Once completed, the panels are put into a “kit” and shipped to the home site for assembly. They are subject to the same building code requirements as panelized homes.

Table 1: Features associated with different types of housing

Features	Manufactured	Modular	Site-built	Panelized
Nearly completed at the factory	X	X		
A truck transports the material and components in stacks to the home site			X	X
Built on a steel frame with wheels	X			
Often comes in two halves that merge at the home site	X	X		
Usually built or set on a permanent foundation		X	X	X
Largely constructed at the home site			X	X
Often purchased from a retailer	X			
Typically purchased through a homebuilder		X	X	X
Typically financed with a mortgage		X	X	X

## G2. Manufactured home terminology

**Certificate of occupancy:** Issued by the local or state building department certifying that the manufactured home has been installed properly and the conditions of the permit application have been fulfilled. In some states, the signed permit is considered approval to occupy.

**Certification of installation:** Certification that is provided by an installer under the HUD-administered installation program. It indicates that the installation of the manufactured home is in compliance with the appropriate design and instructions and meets inspection.

**Consumer complaints:** HUD has entered into cooperative agreements with 38 state governments to respond to consumer complaints about the performance of manufactured homes. These state governments each designate a SAA.

**Delivery:** The transport of the home from the retailer or manufacturer location to the home site.

**Design Approval Primary Inspection Agency (DAPIA):** A third-party independent agency that approves manufactured home engineering specifications and designs and ensures the design documents are in compliance with the Federal Manufactured Home Construction and Safety Standards (FMHCSS).

**Distributor:** Any person engaged in the sale and distribution of manufactured homes for resale.

**Engineer's certification:** A document issued by a certified professional engineer verifying that a foundation system meets the requirements of HUD's Permanent Foundation Guide for Manufactured Homes.

**Factory:** The manufacturing plant that constructs the home in accordance with HUD codes and under HUD inspections.

**Factory-built home:** A dwelling unit fabricated in an off-site manufacturing facility and installed at a building site.

**FHA:** The Federal Housing Administration within the U.S. Department of Housing and Urban Development.

**Foundation:** The term "foundation" means all components of the support and anchoring system. These components include piers, footings, slabs, walls, ties, anchoring equipment, or any other material that supports a home and secures it to the ground. The steel frame and chassis itself affords the manufactured home a solid foundation that supports the home during transport from factory to site. Lenders and state building agencies require a permanent foundation in order for the manufactured home to be considered and taxed as real estate.

**Foundation system:** An engineered prefabricated assembly of materials designed to work with the manufactured home to resist the effects of external forces on the manufactured home.

**Grade:** The finished ground level adjoining the manufactured home at all exterior walls.

**HUD:** U.S. Department of Housing and Urban Development, the agency of the federal government responsible for national building code enforcement in manufactured housing.

**HUD-administered installation program:** A program that is administered by HUD in those states that do not have a qualifying installation program.

**HUD Code:** The HUD Code is administered by the U.S. Department of Housing and Urban Development (HUD) and regulates the design and construction of manufactured homes. The HUD Code is preemptive, meaning it takes precedence over local building codes. Every HUD home has a special label affixed on the exterior of the home indicating that the home has been designed, constructed, tested, and inspected to comply with the stringent federal standards set forth in the code. No manufactured home may be shipped from the factory unless it complies with the HUD Code and receives a certification label from an independent third-party inspector.

**HUD label:** This is a 2" x 4" aluminum insignia plate that is attached to the lower rear corner of each transportable home section. The HUD label identifies the manufacturer, the date of manufacture, and location to which the home was shipped. Most lenders will require proof of the HUD label number.

**Installation:** The process of stabilizing, supporting, anchoring, and closing up a manufactured home and joining sections of a multi-section manufactured home.

**Installation defect:** Any flaw in the performance, installation, installation components, installation material, or close-up of a manufactured home that renders the home, or any part thereof, not fit for the ordinary use for which it was intended or otherwise takes the home out of compliance with the Manufactured Home Construction and Safety Standards.

**Installation design:** An industry term for plans, specifications, sketches, and the related engineering calculations, tests, and data in support of the installation configurations and systems incorporated in the installation of manufactured homes.

**Installation instructions:** DAPIA-approved instructions the home manufacturer provides that accompany each new manufactured home and outline the manufacturer requirements for support and anchoring systems and other work completed at the installation site.

**Installation standards:** The standards governing the installation of a manufactured home. These are either HUD's minimum standards or the state standards that HUD has determined provide protection to the residents of manufactured homes by being equal to or exceeding the protection the federal standards provide.

**Installer:** The person or entity who is retained to engage in, or who engages in, the business of directing, supervising, and controlling the installation, or correcting the initial installation of a manufactured home.

**Installer's license or installation license:** The evidence that an installer has met the requirements for installing manufactured homes under the HUD-administered installation program. The term does not incorporate a state-issued installation license or certification. The term does not imply that HUD approves or recommends an installer or warrants the work of an installer and should not be used in any way that indicates HUD approval.

**Live loads:** Loads produced by the use and occupancy of the building or other structure. They do not include construction loads or environmental loads, such as wind load, snow load, earthquake load, flood load, or deck load.

**Manufactured home:** See "G1. Types of housing."

**Manufacturer:** Any person engaged in manufacturing or assembling manufactured homes, including any person engaged in importing manufactured homes for resale.

**Manufacturer's certification label:** The permanent label affixed to each transportable section of each manufactured home as required.

**Manufacturer's Statement of Origin:** A document prepared by the factory that creates a chain of ownership.

**Mobile home:** See "G1. Types of housing."

**Modular home:** See "G1. Types of housing."

**Multi-section:** A manufactured home built in individual sections in which each section with its own frame and chassis is joined together upon delivery at the installation site. It is also known as a "double-wide" (two sections), "triple-wide" (three sections), or "quad" (four sections). A "double-wide with a tag" is a double-wide manufactured home that has a third section that is considerably shorter in length.

**Options:** Features a manufacturer offers at the buyer's discretion for comfort, convenience, or ambiance.

**Pads:** The footer on the ground upon which a pier is set. It spreads the load from the supported home over a larger area and thereby provides a more stable base. The square pads/footers may be poured or pre-cast concrete, wood, or other materials approved by the local building authority. The piers typically are spaced 5 to 10 feet apart depending on home design, local soil characteristics, and roof snow load. Spacing and load requirements are in the manufacturer's installation instructions that ship with each new manufactured home.

**Penetrometer:** An instrument for measuring the firmness or consistency of the soil. The allowable bearing capacity of the soil is a measure of its strength and ability to carry the weight of the pier without settling or compressing. On new manufactured home installations, pads for piers should be set on compacted or undisturbed soil. Organic or loose matter, such as weeds, trash, and other objects, must be cleared away and then the area for the pad scraped until solid, undisturbed soil is exposed to prevent uneven settlement.

**Percolate:** The measurement of the land's ability to absorb water. It is used to determine provisions for a sanitation system and drain field.

**Permanently affixed:** When referencing real property, it is the manufactured home legally attached to the land, thus becoming a fixture.

**Permits:** City or county authorization to install homes, sewage disposal systems, electrical connections, outbuildings, etc.

**Personal property:** A manufactured home is considered personal property unless the owner of the manufactured home permanently affixes the home to land also owned by them. Learn more about state requirements at [fanniemae.com/mhtitling](https://www.fanniemae.com/mhtitling).

**Piers:** Stanchions of masonry or steel that provide support between the footing pad and the main steel beams of the manufactured home. The manufacturer's installation instructions stipulate the number and placement locations depending on size and weight-bearing capacity.

**Pit set, low profile, subterranean set:** This is the excavation of a home site to allow the home to have a residential, low-profile look. This type of installation is more common in areas of the country without significant rain or snow, such as southern California. This type of installation requires a full perimeter foundation. Moisture prevention measures are recommended for this type of installation.

**Plot plan:** A detailed scale drawing of a home site showing the location of a home, outbuildings, and septic system as well as setbacks and dimensions. It is usually required to obtain home placement permits.

**Professional engineer (PE) or registered architect (RA):** A person licensed to practice engineering or architecture in a state. They are subject to all laws and limitations imposed by the state agency that regulates the applicable profession. They are engaged in the professional practice of rendering service or creative work requiring education, training, and experience in architecture or engineering sciences and the application of special knowledge of the mathematical, physical, and engineering sciences in such professional or creative work as consultation, investigation, evaluation, planning or design, and supervision of construction for the purpose of securing compliance with specifications and design for any such work.

**Purchaser:** The first person purchasing a manufactured home in good faith for purposes other than resale.

**Qualified trainer:** A person who has met HUD requirements to provide training to installers for purposes of the HUD-administered installation program.

**Qualifying installation program:** A program that is certified as meeting the requirements of 42 U.S.C. 5404(c)(3).

**Real property:** A term usually applied to real estate, homes, and other structures permanently attached to land.

**Re-level:** Manufactured homes that are installed using piers and pads sometimes “settle” and become unlevel after initial leveling. Often the retailer will return to re-level the home after allowing time for settling.

**Retailer:** A company licensed and bonded with the appropriate local and state authorities and holding an agreement with the manufacturer(s) to sell manufactured homes.

**Septic design:** A plan drawn by a licensed septic contractor and approved by the local health department that shows the type and location of a septic tank and drain field on a piece of property.

**Setback:** The minimum distance between the property line and a home or building as required by building code and/or zoning regulation.

**Setup:** Also called installation. It is the final stage in the construction of the home that is completed on-site. On-site workers join sections, complete roofing, finish surfaces, paint exterior trim, install carpeting, level the floor and frame, and connect utilities.

**Shear wall:** A general term for walls that are designed and constructed to resist racking from seismic and wind forces with masonry, concrete, cold-formed steel, or wood framing.

**Single section:** Also known as a “single-wide,” this is a home that is built, delivered, and installed as one complete unit. Depending on individual state requirements, they can be in widths of 14, 16, or 18 feet. The maximum lengths are subject to highway permit restrictions.

**Site:** The property location or address at which a manufactured home is installed.

**Site-built structures:** Structures constructed on-site that are subject to local building codes.

**Site preparations:** The construction required prior to the installation of the foundation and manufactured home.

**Skirting:** Materials used to enclose the foundation and crawl space beneath a home. This parameter may be concrete block, pressure-treated wood, matching wood siding, or other building products, depending on the application needs and zoning codes.

**Snow load:** The specification for the roof’s load-bearing weight. Manufacturers usually offer a 20-pounds-per-square-foot (psf) load-bearing roof as a standard specification, but upgrades to 30 psf, 40 psf, and more are available.

**Vapor retarder:** A continuous polyethylene sheet at least 6 millimeters thick. It is placed on the ground to minimize moisture accumulation under the home. The vapor retarder impedes moisture from the ground from entering the crawl space.

**Wind zone map:** A map of the United States showing the three levels of expected wind severity that affect the specifications for the design and construction of manufactured homes. In 1994, HUD wind and storm regulations were amended to require manufacturer compliance with specific standards of construction in designated storm-susceptible regions of the country. The more stringent requirements are for homes placed in Wind Zone 3, which includes the Gulf and Atlantic coast areas of the country.

# Publication Bibliography

American Planning Association (2001): [APA Policy Guide on Factory Built Housing](#).

California Coalition for Rural Housing (2010): [Affordable Manufactured Housing Best Practices: Opportunities for California Affordable Housing Developers](#). Revised 2/26/2010.

California Health and Safety Code (1980): [Manufactured Housing Act of 1980](#).

Fannie Mae (2020): [High-Quality Housing at an Attainable Price](#).

Federal Housing Finance Agency (2020a): [FHFA House Price Index \(HPI\) Quarterly Report — 2020Q2 & June 2020](#).

Federal Housing Finance Agency (2020b): [FHFA House Price Index \(HPI\) Quarterly Report — 2020Q3 & September 2020](#).

Joint Center for Housing Studies of Harvard University (2002): [An Examination of Manufactured Housing as a Community- and Asset-Building Strategy](#).

Joint Center for Housing Studies of Harvard University (2019): [The State of the Nation's Housing 2019](#).

Joint Center for Housing Studies of Harvard University (2020): [The State of the Nation's Housing 2020](#).

Manufactured Housing Institute (2021): [2021 Manufactured Housing Facts: Industry Overview](#). Updated May 2021.

National Association of Realtors (2020): [U.S. Economic Outlook: August 2021](#).

U.S. Census Bureau: [Manufactured Housing Survey: MHS Latest Data](#). Accessed March 2021.

U.S. Department of Housing and Urban Development (1996): [Permanent Foundations Guide for Manufactured Housing](#).

U.S. Department of Housing and Urban Development (2007): [Factory-Built Construction and the American Homebuyer: Perceptions and Opportunities](#).

U.S. Department of Housing and Urban Development Office of Policy Development and Research (2011): [Regulatory Barriers to Manufactured Housing Placement in Urban Communities](#).