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COMMERCIAL
MODULAR
CONSTRUCTION
**RELOCATABLE
BUILDINGS**
REPORT



MODULAR BUILDING INSTITUTE

The industry's best resource for information about the
relocatable building industry in North America

About the Modular Building Institute—The Voice of Commercial Modular Construction™

The Modular Building Institute (MBI) is the only international nonprofit trade association serving the commercial modular construction industry. For 40 years, MBI has promoted the advantages of modular construction while advocating for the removal of barriers that limit growth opportunities. Through its long-standing relationships with member companies, policymakers, developers, architects, and contractors, MBI has become the industry's go-to resource for reliable information for the commercial modular construction industry.

HISTORY

Founded in 1983 to serve the global modular construction industry, today MBI has more than 500 member companies, including manufacturers, contractors, relocatable building fleet owners, architects, developers, and material and service providers.

MISSION

As the Voice of Commercial Modular Construction, MBI's mission is to expand the use of offsite and modular construction through innovative construction practices, outreach and education to the construction community and customers, and recognition of high-quality modular designs and facilities.

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PLATINUM



GOLD



SILVER



BRONZE





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Cover Image: The Nine Sales Centre. Built by Giant Containers Inc. First Place, Relocatable Modular Retail.

The images in this report represent some of the winners of the Modular Building Institute's 2023 Awards of Distinction. To see the complete list of winners and learn more about each project, visit modular.org/awards.

ABOUT THE MODULAR CONSTRUCTION INDUSTRY

Unlike the federal HUD Code manufactured housing industry, the modular construction industry is regulated primarily at the state, provincial, and local levels by code officials and agency administrators. As with site-built structures, modularly constructed facilities must meet the local codes where the buildings are to be located. There is no special “modular building code,” and there are no exceptions for buildings constructed utilizing the modular construction process—it is simply a different and more efficient manner by which to assemble the materials and components of a building at an offsite location. Modular construction can be utilized for commercial, residential, institutional, or industrial applications.

Commercial modular buildings are nonresidential, factory-built structures designed to meet provincial, state, and local building codes. Commonly, these buildings are constructed in

accordance with the International Building Code (IBC), or some code modeled after the IBC. The commercial modular building industry is composed of two distinct divisions, both represented by MBI:

Permanent modular construction (PMC) is an innovative, sustainable construction delivery method utilizing offsite, lean manufacturing techniques to prefabricate single-story or multistory whole building solutions in deliverable module sections. PMC buildings are manufactured in a safe, controlled setting and can be constructed of wood, steel, or concrete. PMC modules can be integrated into site-built projects or stand alone as a turnkey solution, and can be delivered with mechanical, electrical, and plumbing (MEP); fixtures; and interior finishes in less time, and with less waste and higher quality control, than projects utilizing only traditional site construction.

Relocatable buildings (RB) are defined in the International Existing Building Code as partially or completely assembled buildings constructed and designed to be reused multiple times and transported to different building sites.

This report focuses on relocatable buildings in North America.





The Nine Sales Centre.
 Built by Giant Containers Inc.
 First Place, Relocatable
 Modular Retail.



OVERVIEW

While consolidations and acquisitions continue and the number of companies owning and leasing relocatable buildings declines, the total number of relocatable buildings in use remains fairly constant at around 500,000.

Public school districts across North America collectively own and operate about 200,000 relocatable classrooms, while the industry owns and leases about 300,000 buildings amounting to more than \$5 billion in assets. Additionally, many construction companies own fleets of construction offices (not included in this data) that move from site to site. These figures also do not include noncoded units such as personal storage units, although these units typically make up about 15 percent of a provider's fleet.

MBI obtained data from fleet owners controlling 291,554 rental units, or nearly all of the industry-owned assets. Across all companies, the average (mean) fleet size for North American fleet owners in 2022 was 11,214 units. However, only four companies in this data set have a lease fleet larger than the mean. The median number of units from this data set was 1,300, demonstrating the gap between the larger and smaller companies. Companies reported 72.7 percent of inventory on lease as of Dec. 31, 2022.

While we have made every effort to obtain relevant data from all available sources and to make appropriate currency conversions, when necessary, we caution that this report is based on the best available data and may not be representative of specific company activities. The data obtained by companies for this report is only accurate to the extent that the data provided by member companies is accurate.





Pavilion 22.
Built by CMC Modulos Construtivos Ltda.
Honorable Mention, Relocatable Modular Assembly.



MARKETS SERVED

Today, customers of relocatable buildings include a diversified client base of general contractors, real estate developers, manufacturers, commercial businesses, education providers, financial institutions, government agencies, and companies involved in the resource industry. Common product offerings include single-wide office units, storage units, large multiunit office complexes, and classroom facilities.

Education

Relocatable buildings have become a critical factor in managing student demographics and increasing enrollments, and relocatable classrooms are ideal for “swing space” during new construction and renovation. Convenient, flexible, cost-effective temporary buildings can be delivered and operational in as little as 24 hours. These classrooms are measured for quality and code compliance by state or third-party agencies through routine

and random inspections, testing, and certification services.

Customers may choose single classrooms or arrange multiple buildings in clusters to create a campus feel. MBI members supply steps, decks, ramps, and even furniture. Members also offer lease, purchase, and lease-to-purchase financing for a variety of public and private school needs. These classrooms are sometimes referred to as temporary, portable, or mobile classrooms.

School districts across North America are collectively the largest owners of relocatable classrooms, with about 200,000 total units. California schools own approximately 90,000 units, Texas schools own about 20,000, and Florida schools own about 17,000. Typically, larger school districts with high growth are more likely to own the units, which explains why California, Texas, and Florida have so many. States like Georgia, North Carolina,

Virginia, and Maryland own and operate about 3,000 units each.

MBI analyzed 10 educational projects completed in 2022. The average size of these relocatable education facilities was 24,743 square feet, consisting of an average of 32 modules. The average project cost was US \$1,755,586, with the modular portion of the project making up approximately 80 percent of the total cost (design, permits, and site work make up the balance). On average, these projects were completed in 190 days.

Construction Sites

Relocatable buildings have their roots in construction site trailers, where speed, temporary space, and relocatability are important. Used as standard field offices, construction site and in-plant buildings are available for immediate delivery. The standard construction is wood, but steel units are available to meet noncombustible requirements. In-plant buildings are available as single- or two-story units for industrial

environments with noise-reducing insulation. They are typically movable by forklift and include electrical and communications wiring, heating, air conditioning, and even plumbing.

Healthcare

While historically not a large market for the relocatable building sector, the global pandemic exposed a great need for temporary medical facilities. Although some localities chose to convert hotels and convention centers into COVID triage facilities, many chose to utilize relocatable buildings to fit their pressing needs.

Relocatable buildings for healthcare applications are designed and constructed to uncompromising standards of quality. A customer’s new clinic, hospital extension, laboratory, diagnostic center, MRI unit, dentist office, or other medical facility can be open for business and serving communities in as little as a few days. These facilities offer quick, quiet,



Vance AFB Fire Crew Quarters.
 Built by Ramtech Building Systems.
 First Place, Relocatable Modular
 Workforce Housing Under 10,000
 Sq Ft.



MARKETS SERVED

safe, clean buildings with an unlimited choice of interior decor, as well as furniture and equipment leasing. To help expedite the use of temporary facilities going forward, MBI worked with the Facility Guidelines Institute on the development of a new resource titled “Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions.” This guide contains information for healthcare facility planners to better utilize modular construction to meet short-, intermediate-, and long-term needs.

General Administrative and Sales Office

When production demands increase, relocatable buildings can temporarily enlarge a current facility without permanent alterations to the site. Since the space is not permanent, many companies are able to expand without the budget approval process necessary for traditional capital expenses. Relocatable offices can be single-story or multistory buildings configured to include independent offices, conference rooms, and large

open spaces for cubicles or other partition systems. Large and small businesses, as well as local and state governments, are typical users of relocatable office space.

Commercial/Retail

Earlier occupancy means quicker return on investment, and for retail occupancies, this can mean significant cash flow advantages. Standard floor plans are available for immediate delivery, while custom buildings are built to specifications in weeks, not months. Unique to the modular process is concurrent construction: site work occurs while buildings are being put together in a quality-controlled factory.

Typical retail applications include new home sales centers, banks, golf pro shops, automobile fleet ownerships, college bookstores, and concession stands. If a client’s emerging business needs are short-term, temporary space will accommodate their financial situation, space requirements, and deadlines.

Security

Relocatable buildings can be custom-built for a variety of access and control situations. Toll booths, ticket sales offices, guard stands, and weigh stations are common applications. One- and two-story wood and steel buildings have straight walls or walls that are tilted to improve views and reduce glare. MBI members supply a full line of portable storage containers for either short- or long-term use. Heavy-duty storage units feature ground-level entry, with double-swing doors for easy accessibility, and are ideal for construction site storage, equipment storage, warehousing, record-keeping, industrial manufacturers, retailers, and others.

Equipment and Storage

Economical, convenient equipment and storage buildings offer onsite protection from inclement weather and theft, and relocatable buildings offer long-lasting durability and strength. Equipment shelters for construction sites, chemical storage buildings, temporary generator housing, and other applications are

designed and built by MBI members to guard client investments. These buildings can be as simple as steel containers, or can be more complex units that are heated and air conditioned and feature exteriors of brick, stone aggregate, or stucco.

Emergency/Disaster Relief

There is simply no better means of rapidly providing transitional shelter and basic community needs following natural disasters than relocatable buildings. Relocatable buildings can be quickly and efficiently deployed for emergency shelter, medical and educational needs, or to accommodate relief workers. MBI members provide quick, safe spaces following natural disasters such as wildfires in California, hurricanes, and tornadoes—and, of course, in response to COVID-related needs. During the COVID pandemic, MBI reached out to hundreds of federal, provincial, and state emergency management agencies to share information about available inventory and the advantages of rapidly deployable relocatable buildings.

PROJECT DATA

MBI analyzed 33 relocatable building projects completed in 2022 that were built for the education, office, healthcare, retail, and workforce housing markets. The average size of projects across all markets was 12,076 square feet, ranging from 273 square feet to 132,096 square feet. These projects took an average of 183 days to complete, at an average project cost of \$1,479,339, or \$122.50 per square foot.

Business Operations

Each year MBI compiles data about the modular construction industry, and each year the public shows a desire for more information and detail. One of the challenges in gathering this data is the diversity among industry participants. Modular construction itself is not a North American Industry Classification System (NAICS) category—rather, the industry falls under several NAICS categories, including:

321992: Prefabricated wood buildings and structures

332311: Prefabricated steel buildings and components

236220: Commercial building construction

531120: Commercial building rental or leasing

In general, when properly maintained and operated, relocatable buildings have useful operational lifespans comparable to those of any other building type. Capital improvements, such as HVAC replacement and roof replacement, are frequently made to these units, which can extend their useful lifespans for several additional years. Total reported capital expenditures for new lease fleet investment in 2022 was nearly half a billion dollars.

A typical relocatable building will be moved an average of seven times over the course of its lifespan. Again, this varies based on the size and

type of the unit. For example, smaller buildings made up of one or two modules, such as construction site offices, may move 12 to 15 times over their lifespan. A larger complex, on the other hand, may only move three to five times over its lifespan.

Average Lease Term

These terms varied depending upon the product leased (single-wide, double-wide, complex). Our findings indicate that in order to recoup the initial capital investment in a unit, a fleet owner typically needs to have the unit on lease for 35-50 months. Once the initial investment is recouped, fleet owners continue leasing their units until sold, typically after 10 years.

Monthly Rental Rate of Return

The average monthly rental rate of return (also referred to as return on investment or lease rate factor) is calculated by dividing the averages of monthly rental revenues by the cost

of rental equipment on rent for the period. For example, if a company has an average monthly rental rate of 2 percent, it is generating revenue equal to 2 percent of the total cost of the equipment on lease each month, or 24 percent of the unit's cost per year. In this case, renting the unit for 50 months would generate revenue sufficient to cover 100 percent of the unit's original cost. A company with an average monthly rental rate of 3 percent would require just 34 months of rental income to recover initial costs.

For 2022, MBI took an average of the reported rates over the past three years to calculate an industry-average monthly rental rate of return of 2.52 percent. Based on this information, a company would need to consistently rent its unit for 39.6 months to recover the original cost of equipment, excluding annual maintenance and capital improvements. This average is

PROJECT DATA

across all company sizes and product lines (single-wides, double-wides, etc.). Although not all companies provided the same data for all years, the three-year average provides a good benchmark for the industry.

Sales Price to Original Cost Ratio

Over the past 10 years, the average sale price of a relocatable building has exceeded 100 percent of its original cost, demonstrating that these units retain their values well. There are many factors involved in determining value and sale price, including the escalating cost of constructing new units due to material price increases, expanded code requirements, and labor availability. Another key factor concerns the proper operation and maintenance of the unit over its lifespan.

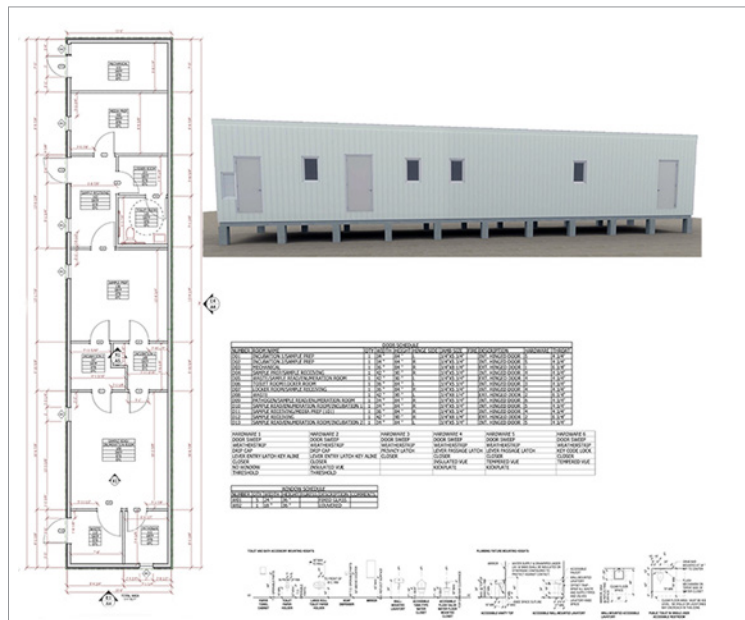
MBI has calculated the average sale price to original cost ratio for 2022 at 1.43x, compared to 1.53x in 2021. This includes sales of all types of units (single-wides, double-wides, complexes).

The Journey for a Typical Relocatable Building

A unit is manufactured and put into service in a company's lease fleet, then initially leased to a customer on average for 17 months. The lease is then either renewed or the unit is relocated to a new site for another customer with a new lease. Based on our data, the original cost of the unit is recovered around the 40th month on lease. This cycle continues five to six times over the lifespan of the building, with the owner incurring maintenance, insurance, and tax costs, as well as possible capital improvements along the way. It is common for one unit to generate more than 120 months of rental income for its owner before being sold, on average, for 1.43 times the original cost. Existing units hold their value well, with sales prices increasing due to higher construction costs for new units. These higher costs are due to material price increases, expanded code requirements, and labor availability.



Eurofins Idaho Food Safety Laboratory.
Built by Art's Way Scientific, Inc. & PSE Consulting Engineers Inc.
First Place, Relocatable Modular Special Application.

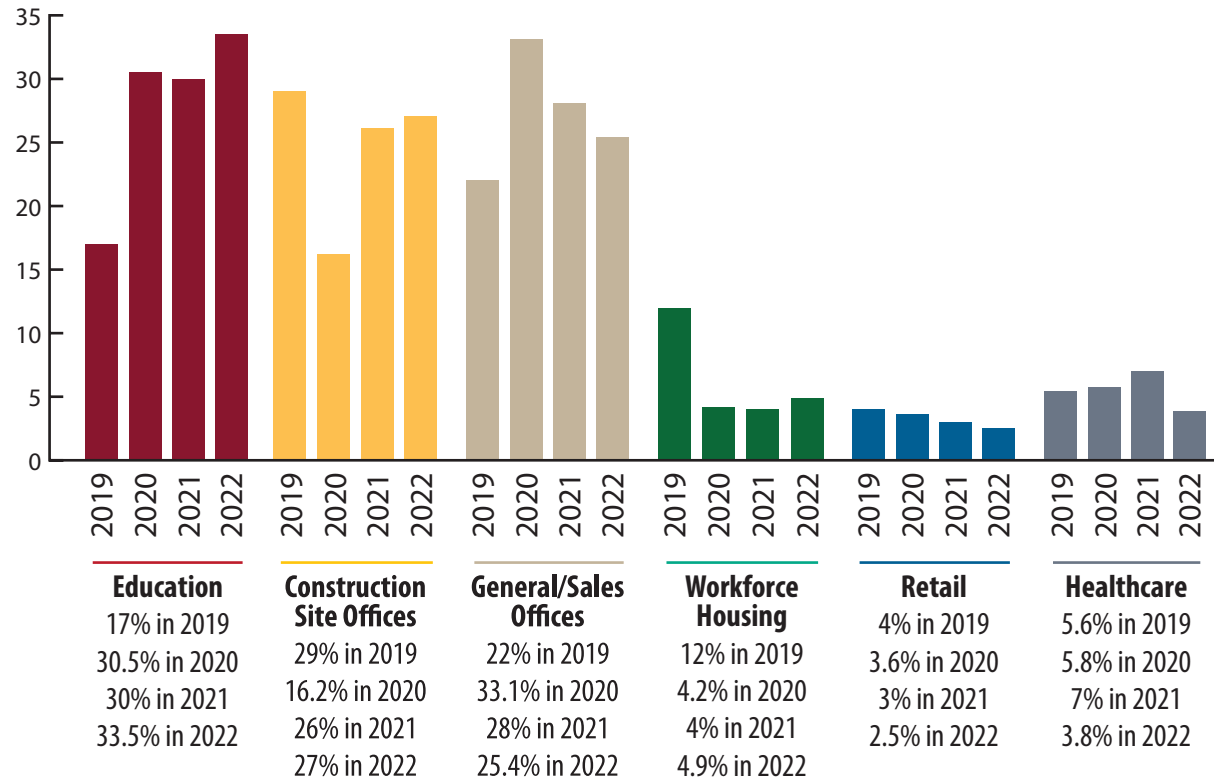


PROJECT DATA

Revenue by Product or Service

Twenty-five companies reported revenue generated from the following markets in 2022:

Sources of Relocatable Building Revenue by Market North America, 2019-2022



Companies engaged in the relocatable building sector derive a majority of their revenues from the lease of units. For 2022, the average revenue from leased units and related products (e.g., stairs and ramps) accounted for 57 percent of total revenue, down from 60 percent in 2021. The sale of new and used units accounted for 26 percent of total revenue in 2022. Other sources of revenue include services such as delivery and installation of relocatable buildings, constituting about 17 percent of total revenue.

Regional Competition

Despite the growing control of the industry fleet by a handful of larger companies, the day-to-day operations of the industry are still very much regional in nature. Typical clients include general contractors and school districts seeking temporary, cost-effective solutions for space needs. In any given market, the larger companies must still compete with several smaller fleet owners serving the region. Drivers of demand for relocatable buildings often include availability and quality of the product, as well as price and service.

The percentages of units owned vary by region, as some of the larger industry players are more heavily concentrated in certain regions and less in others, while some of the midsized companies are state- or region-focused. For example, a company with 1,000 units in a smaller region may have a greater local market share than a large fleet owner that is less active in that same region. Additionally, there are very few large customers for relocatable buildings. This regionalization of markets and diversity of customers helps keep the market competitive, despite mergers and consolidations.

The differences in state building codes also prevent larger players from “flooding the market” and shipping in excess product from another region. Given that all relocatable buildings must meet wind, snow, and seismic conditions where they are to be located, it is not practical for any company to build one type of building to meet every possible local condition. For example, a relocatable building that meets wind zone requirements in Florida may not be suitable for seismic conditions in California or snow loads in New York.

Depreciation

When asked about depreciation and residual values of the lease fleet, responses varied based on condition and capital improvements to the fleet, market use of the fleet, and composition of the types of units in the fleet (e.g., construction offices, classrooms, etc.).

Many units in the industry lease fleet are depreciated over a 20-year period, with a 50 percent residual value (residual value is understood to be the anticipated value of the building at the end of the lease). The mean annual depreciation has ranged between 5 percent and 6 percent for the past several years.

Utilization

Utilization is the percentage of a company’s assets that are currently on lease and generating revenue at a given time. MBI obtained fleet utilization data from 26 companies collectively owning 291,554 units. Of those units, 211,956 were on lease at the end of 2022, for a weighted industry utilization rate of 72.7 percent, which was up slightly from 72.6 percent at the end of 2021.

Key Findings

Overall demand in North America for relocatable buildings was up slightly in 2022, with 72.7 percent of all units reported on lease as of Dec. 31, 2022.

The monthly rate of return was calculated at 2.52 percent.

Sales of existing units in the fleet yield 1.43 times the original cost.

Total industry revenue reported to MBI exceeded \$3 billion in 2022.

The average age of units in the lease fleet was just under 10 years for 2022, with a reported \$500 million invested in capital expenditures for new inventory and total industry assets in excess of \$5 billion.

Revenue mix was generated from roughly the same market segments, with about two-thirds of industry revenues coming from relocatable classrooms and construction site offices.

Across all companies, the average (mean) fleet size for North American fleet owners in 2022 was 11,214 units. However, only four of the companies in this data set have a lease fleet larger than the mean. The median number of units from this data set was 1,300.

Mergers and acquisitions continue, with 83 percent of all industry units owned by four companies.

GUIDE FOR CODE COMPLIANCE FOR RELOCATABLE BUILDINGS

All newly constructed relocatable buildings must be constructed in accordance with the building codes in effect at the time of the building's construction, most commonly the International Building Code (IBC). These buildings are constructed offsite, and many elements are concealed when the building arrives at the site (a process known as closed construction).

As such, 35 states have statewide administrative programs in place to determine whether buildings are constructed in accordance with all applicable codes. The terminology varies across state programs, with many referring to these buildings as “industrialized buildings” or even

“manufactured buildings.” The latter term is not preferred, however, as it tends to imply that these buildings are constructed to the same federal HUD code as manufactured housing products—which is not the case.

These state programs require manufacturers of relocatable buildings to be approved with the respective state agency, have a quality-assurance program approved, and submit regular reports. Additionally, each floor plan the manufacturer intends to build must be reviewed and approved by a licensed third-party design professional in the state. These professionals are sometimes referred to as compliance assurance agencies (CAA) or third-party inspection agencies (TPIA).



Once the manufacturer and plan are approved, every manufactured section or module of an industrialized building shall be marked with a label supplied by the TPIA that includes the name and address of the compliance assurance agency and the certification label number.

The relocatable building will also have a manufacturer's data plate permanently attached or adjacent to the electrical panel posted in the location as noted on the drawings. This plate will include information such as:

1. Occupancy group
2. Manufacturer's name and address



San Diego Airport Project.
Built by Pacific Mobile Structures, Inc. & Phoenix Modular.
First Place, Relocatable Modular Office Over 10,000 Sq. Ft.

GUIDE FOR CODE COMPLIANCE

3. Date of manufacture
4. Serial number of modules
5. Design roof live load, design floor live load, snow load, wind, and seismic design
6. Approved quality-assurance agency or approved inspection agency
7. Codes and standards of construction
8. Envelope thermal resistance values
9. Electrical service size
10. Fuel-burning equipment and size
11. Special limitations, if any

Following this process, the building is ready to be permitted and placed on its first location, and is considered approved or “registered” in the state. Registered buildings should be accepted in all localities as meeting the requirements of the codes for the building itself. The label affixed by the third party is the indication for the local building code official that the unit does in fact comply with codes. The local official, therefore, has no jurisdiction over “what is inside the box.” However, local requirements affecting buildings,

such as local land-use and zoning, local fire zones, site development, building setback, side and rear yard requirements, property line requirements, and subdivision regulations, are within the scope of the local authority.

Existing Relocatable Buildings

Unique to relocatable buildings is that they are designed and constructed with the explicit purpose of being relocated and used multiple times—possibly at multiple locations, including in other states.

Once relocated from its original site, the building is now considered an “existing building” (per IBC, one for which a legal building permit has been issued). Prior to 2015, Chapter 34 of the IBC contained compliance information for existing buildings. Beginning with the 2015 IBC, Chapter 34 has been removed in its entirety and replaced with a “pointer” to the International Existing Building Code, or IEBC (IBC 2015 Section 101.4.7).

In Chapter 14 of the 2018 IEBC, “Relocated or Moved Buildings,” Section

1401.1 Scope states that “this chapter provides requirements for relocated or moved structures, including relocatable buildings as defined in Chapter two.” Those requirements address various life-safety issues such as wind loads, seismic loads, and snow loads. Any existing relocatable building moved into a new jurisdiction must meet these load conditions. The local code official can find this information from the manufacturer’s data plate affixed to the building.

Aside from specific site and zoning issues, a local building code official needs only to locate the third-party label and the manufacturer’s data plate on the relocatable building to determine compliance. If the building is missing either the label or the data plate, the building is subject to approval by the local code official.

It is important to note that there is no “expiration date” for these approval labels, provided the relocatable building has not been modified and has not experienced any structural damage over time.

DEFINITIONS

MBI adopted the definitions contained in the ICC/ANSI standard 1200 and 1205 for consistency. Sources for other terms not used in the standard include state administrative programs, as well as the National Institute for Building Sciences.

Accessory Dwelling Unit. A smaller, independent residential dwelling unit located on the same lot as a stand-alone (i.e., detached) single-family home (*source: American Planning Association*).

Building Envelope. The physical separator between the interior and the exterior environments of a building that serves as the outer shell to help maintain the indoor environment (together with the mechanical conditioning systems) and facilitate its climate control. Building envelope design is a specialized area of architectural and engineering practice that draws from all areas of building science and indoor climate control.

Building Site. A lot, the entire tract, subdivision, or parcel of land on which

industrialized housing or buildings are sited.

Building System. The design and/or method of assembly of modules or modular components represented in the plans, specifications, and other documentation—which may include structural, electrical, mechanical, plumbing, fire protection, and other systems affecting health and safety.

Certification Label. A decal, insignia, or alteration decal.

Closed Construction. A building, component, assembly, subassembly, or system manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly or destruction thereof.

Commercial Structure. An industrialized building classified by building codes for occupancy and use by groups other than residential for one or more families.

Compliance (or Quality) Control Program. The manufacturer's system,

documentation, and methods of assuring that industrialized housing, buildings, and modular components—including their manufacture, storage, handling, and transportation—conform with this chapter.

Compliance Assurance Program. Procedures stating the guiding principles and defining the framework for ensuring that construction documents approved by a design-review agency—or modular buildings inspected by a third-party inspection agency—comply with the applicable building codes.

Component. A subassembly, subsystem, or combination of elements for use as a part of a building system or part of a modular component that is not structurally independent, but may be part of structural, plumbing, mechanical, electrical, fire protection, or other systems affecting life safety.

Data Plate. A plate attached to a modular building by the manufacturer or installer, or a modular component that contains identifying information

enabling code officials or end users to determine if the structure is suitable for installation in their jurisdiction, location, or project.

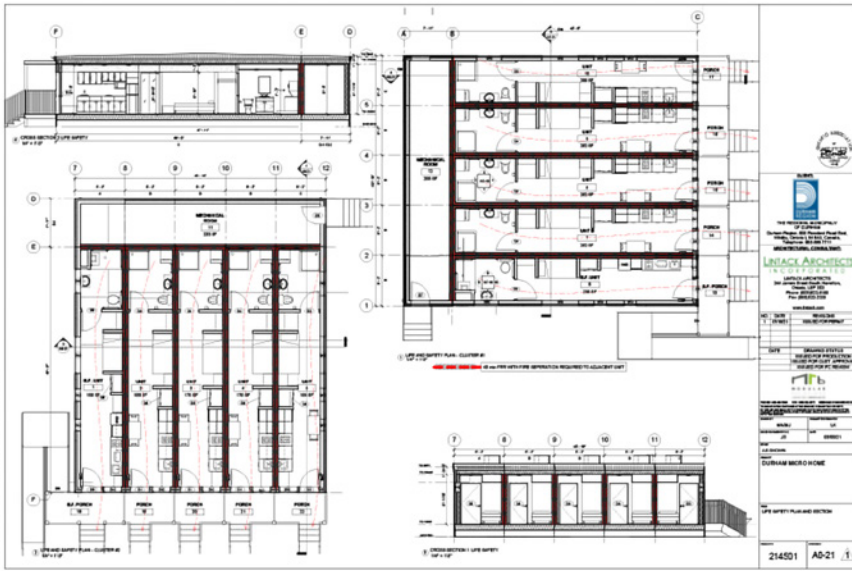
Decal. The approved form of certification issued by the authority having jurisdiction—to be permanently attached to the modular building, modular component or panelized system—indicating that it has been constructed to meet or exceed the applicable building code requirements.

Deconstruction. The process of taking a building or structure, or portion thereof, apart with the intent of repurposing, reusing, recycling, or salvaging as many of the materials, products, components, assemblies, or modules as possible.

Design Package. The aggregate of all plans, designs, specifications, and documentation required by these sections to be submitted by the manufacturer to the design-review agency, or required by the design-review agency for compliance review, including the compliance control manual and the onsite

DEFINITIONS





Oshawa Micro-Homes.
Built by NRB Modular Solutions.
First Place, Relocatable
Modular Multifamily & Hotel.



construction documentation. Unique or site-specific foundation drawings and special onsite construction details prepared for specific projects are not a part of the design package.

Erection/Installation/Set. The process of blocking, leveling, and anchoring a modular building unit on the building site upon delivery.

Industrialized Building. A commercial structure built in one or more modules, or constructed using one or more modular components, built at a location other than the commercial site and designed to be used as a commercial building when the module or modular component is transported to the commercial site and erected or installed.

Industrialized Housing. A residential structure designed for the occupancy of one or more families, constructed in one or more modules using one or more modular components, built at a location other than the permanent site, and designed to be used as a permanent residential structure when the module or modular component is transported to the permanent site and erected or installed on a permanent foundation system.

Insignia. The approved form of certification issued by the authority having jurisdiction to the manufacturer—to be attached to the modular building, modular component or panelized system—indicating that it has been constructed to meet or exceed the applicable building code requirements.

DEFINITIONS

Manufacturer. The entity responsible for the manufacturing of assemblies, panelized systems, modular buildings, or modular components.

Manufacturing Plant. The location, other than the building site, at which modular buildings, modular components, modules, panels, or tiny houses are assembled or manufactured prior to transport to the final construction site.

Marriage Wall/Crossover Connections. The joint between the modules in a complex, commonly called a mate-line or mod-line.

Modular Component. A subassembly, subsystem, or combination of elements, including panelized systems, building shells or bathroom pods, for use as a part of a modular building that is not structurally independent, but is part of structural, plumbing, mechanical, electrical, fire protection, or other systems affecting life safety.

Offsite Construction. The planning, design, fabrication, and assembly of building elements at a location other than their 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.

Offsite construction is characterized by an integrated planning and supply chain optimization strategy (source: National Institute of Building Science).

Open Construction. A modular building, modular component, panelized system, or tiny house manufactured in such a manner that all portions can be readily inspected at the building site without disassembly, damage, or destruction thereof.

Permanent Modular Construction (PMC). An innovative, sustainable construction delivery method utilizing offsite, lean manufacturing techniques to prefabricate single- or multistory whole building solutions in deliverable module sections. PMC buildings are manufactured in a safe, controlled setting and can be constructed of wood, steel, or concrete. PMC modules can be integrated into site-built projects or

stand alone as a turnkey solution, and can be delivered with MEP, fixtures, and interior finishes in less time, and with less waste and higher quality control than projects utilizing only traditional site construction.

Prefabricated. The manufacture or fabrication of sections of a building at an offsite location, which are then delivered to and assembled at the building site.

Quality Control. Controls and inspections implemented by the manufacturer, as applicable, to ensure the material provided and work performed meet the requirements of the approved construction documents and referenced standards-applicable building codes. Registered Design Professional. An individual who is registered or licensed to practice their design profession, as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

Relocatable/Industrialized Building. A partially or completely assembled building that complies with applicable

codes and state regulations and is constructed in a building manufacturing facility using a modular construction process. Relocatable modular buildings are designed to be reused or repurposed multiple times and transported to different sites. Site or Building Site. A lot, the entire tract, subdivision, or parcel of land on which industrialized housing or buildings are sited.

Third-Party Inspector. An approved person determined by applicable statutory requirements to be qualified by reason of experience, demonstrated reliability, and independence of judgment to inspect modular buildings, and portions thereof, for compliance with the construction documents, compliance control program, and applicable building code. A third-party inspector works under the direction of a third-party inspection agency.

Tiny Houses. A dwelling that is designed and constructed in accordance with the International Residential Code (IRC), with additional requirements as specified in the IRC Appendix Q.

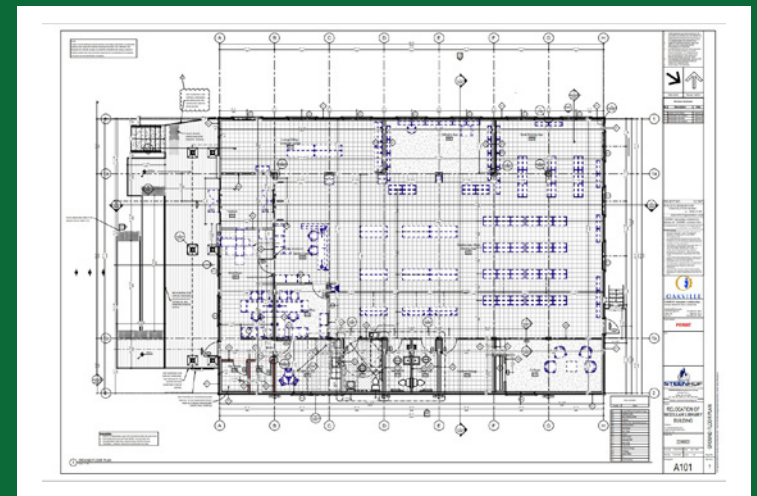
Library Relocation.

Built by Steenhof Building Services & Nomadic Modular Structures Inc.

Relocatable Modular Education Under 10,000 Sq. Ft.



Library Relocation Social HD



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COMMERCIAL
MODULAR
CONSTRUCTION
**RELOCATABLE
BUILDINGS**
REPORT



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