



MODULAR HOUSING ASSOCIATION PRAIRIE PROVINCES

# TRUTHS AND **MYTHS** ABOUT FACTORY-BUILT HOUSING

MODULAR HOUSING ASSOCIATION  
PRAIRIE PROVINCES

Manitoba Building Officials  
April 26, 2017





# THEN



# AND



# Now





# TIMELINE / MILESTONES / MOMENTS

The earlier factory-built homes resemble recreational units of today!

Genuine 1905 House Trailer

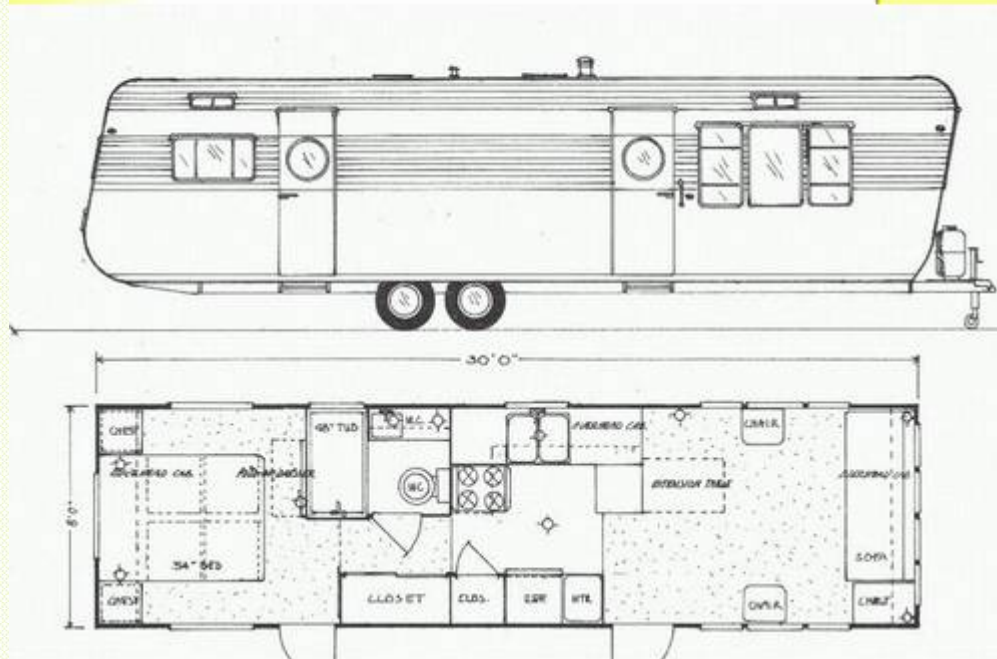


1932 Trailer Home



1952 Monarch 8 x 30 1 bdrm 1 bath

Blueprint sketch: Front Face and Floorplan





# Interiors from the Past





# 1960's AND 1970's

IF IT'S A LARGER HOME YOU NEED. CONSIDER THE  
CHAMPION®

**Wolverine®**  
Doublewide  
MOBILE HOME

1965



**LARGER LIVING ROOM**  
We've got a regular house sized living room with luxurious prefinished wall paneling for long, carefree life.



**KITCHEN** has more than usual storage space washer-dryer easily accessible. The separate dinette will seat the whole family without crowding.



**ALL BEDROOMS** are larger than mobile home proportions.



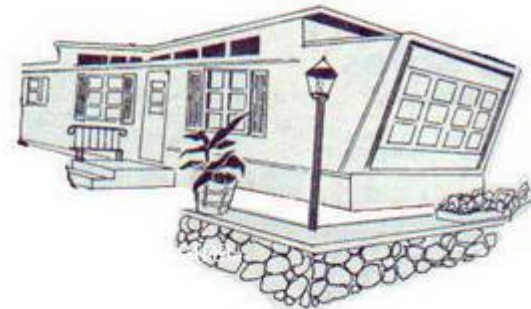
Write for complete information on the Wolverine.

**Champion. HOME BUILDERS CO.**  
EXECUTIVE OFFICES  
DRYDEN, MICHIGAN

MAY 1965

## 1973 Aetna

The unique roofing was intended to add a feeling of space with a higher ceiling.



\$3,995.00 selling price, lot rent as low as \$35.00 a month.





# CHANGE IS INEVITABLE

## This is Now









# INTERIORS FROM HOMES OF TODAY





# INDUSTRY MILESTONES



# MILESTONE 1970 - 1981

- From Mobile homes to Manufactured Homes



- Mid 1980's the size of homes increased



# ANOTHER MAJOR MILESTONE 2001

- In 2001 the industry began building 1,520 sq. ft. homes as one-piece units.
- Today factory-built homes of almost any size can be built off site and moved to the home site using specialized equipment.







MODULAR HOUSING ASSOCIATION PRAIRIE PROVINCES

# TRUTHS AND MYTHS ABOUT FACTORY-BUILT HOUSING

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Truths and **Myths**





# CONSTRUCTION OF FACTORY-BUILT

## FACTORY-BUILT HOUSING (CSA A277) IS CONSTRUCTED TO THE SAME STANDARD AS SITE-BUILT TRUTH

- All housing in Manitoba must
  - be built to meet or exceed the Manitoba Building Code (MBC) **or** to the CSA Standard Z 240 MH
  - from January 1<sup>st</sup>, 2018, will provide the same new home warranty









# BENEFITS OF FACTORY-BUILT





# MOVING FACTORY-BUILT HOMES

FACTORY-BUILT HOUSING CAN BE EASILY MOVED  
FROM ONE SITE TO ANOTHER: **MYTH** ❌

- The average weight of a factory-built home is approximately 27,500 kg
- Specialized equipment is required to move factory-built homes
- In many cases, moving a home onto a foundation requires a crane or other specialized equipment





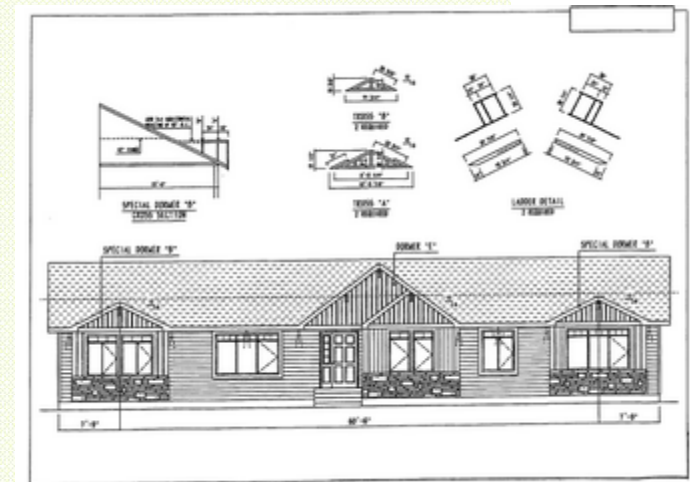




# IN YOUR COMMUNITY

## FACTORY-BUILT HOUSING IS SUITABLE FOR ANY COMMUNITY: TRUTH ☒

- Architectural Guidelines within land-use bylaws and approval of the development permit determine the final visual of the home and lot. Considerations include:
  - “Site Plan”
  - Development drawings
  - Elevation
  - Number of Stories
  - Roof Pitch, Style, Eave Width
  - Exterior Finishes
  - Location of Front Door
  - Width Facing Street, Etc.





# USE OF FACTORY-BUILT MODULES

FACTORY-BUILDING IS ONLY FOR SINGLE FAMILY

RESIDENTIAL:

MYTH 

- The Factory-built industry supplies modules for:
  - Single Detached
  - Multi-Family,
  - Single Level or Multi-Story
  - Apartments
  - Seniors, Social Housing, Day Cares and
  - Commercial and Industrial Projects



# SINGLE FAMILY / SINGLE OR MULTI-LEVEL





# MULTI-FAMILY





# OTHER HOUSING PROJECTS

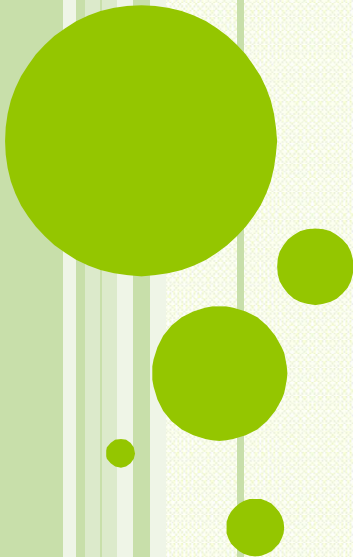


North Ridge Project I  
Seniors Affordable Housing  
Residence





# GREEN AND SUSTAINABLE





# LOWER EMISSIONS/GREATER SUSTAINABILITY

**BUILDING HOMES USING FACTORY CONSTRUCTION CONSIDERABLY LOWERS CO<sub>2</sub> EMISSIONS AND SAVES COSTS. TRUTH** 

- North Ridge CO<sub>2</sub> Analysis Report Comparison between Modular and On-Site Construction study prepared by the Department of Civil & Environmental Engineering, University of Alberta – considering:
  - Crew Trips, Scheduling, Winter Heat, and Construction Material Waste Minimization
- The benefits of Factory-Built construction was demonstrated via:
  - Reduction in CO<sub>2</sub> Emissions was 43%
  - Overall time reduction of 55% (no double handling of materials, no delays for scheduling contractors)
  - Improved Safety (lowering WCB rates)
  - Improved quality as construction is tighter and stronger



# LOWER EMISSIONS/GREATER SUSTAINABILITY

- Better Energy Performance
- Reduced Environmental Footprint on the Home-Site
- Reduced Environmental Footprint on the Greater Area
- Reduced Material Waste and Improved Disposal / Recycling
- Improved Long-Term Performance and Durability
- Reconfiguration Made Easy
- Short Construction Time Frame
- Efficient Factory Design
- Fewer Sub-Trades and Associated Coordination Concerns
- Climate Controlled Working Environment



# VALUE OF HOME

## FACTORY-BUILT HOMES APPRECIATE

### SIMILAR TO SITE-BUILT. TRUTH

- Homes on Owned Land vs. land lease
  - The difference is the investment in land not the home; Home and Land appreciate similarly for factory built and site built homes
- Factory-built homes offer similar options as site-built homes
  - Consideration limits include weight and route to home sight
- Factory-built can be renovated and updated as easily as site-built homes



# UNDERSTANDING FACTORY-BUILT TERMINOLOGY



# UNDERSTANDING INDUSTRY TERMS

## ○ Modular Home

- a detached dwelling unit
- intended for year-round occupancy
- comprising one or more modules
- constructed wholly or partially in a factory, in compliance with the applicable building codes, standards and other regulations in force at the installation location.

## ○ The dwelling unit is

- transported to the installation site
- set on a permanent foundation.





# UNDERSTANDING INDUSTRY TERMS

## ○ Manufactured Home

- a detached one-story dwelling unit
- intended for year-round occupancy
- comprising one or more modules and
- constructed in a *factory* in accordance to CSA Z240 MH Series, “Manufactured Homes”.
- transported to the installation site where it is set on *permanent foundation including surface foundations built to the Z240.10. 1 Standard*.



- **Note:** Since 2009, CSA Z240 MH Series, “Manufactured Homes” has provided the minimum requirements for residential homes in Canada; with the exception of Alberta.



# UNDERSTANDING INDUSTRY TERMS

## ○ Mobile Home

- a detached one-story dwelling unit
- intended for year-round occupancy
- comprising one or more modules and
- constructed in a *factory* in accordance to CSA Z240 MH Series, “Mobile Homes” (pre-2009).
- transported to the installation site where it is set on a *permanent foundation*.





# UNDERSTANDING INDUSTRY TERMS

- **The term *modular* describes**
  - a method of constructing a home or other building
  - in one or more large sections,
  - away from the home site,
  - under climate controlled conditions.
- **The type of home constructed is determined by the**
  - building code to which it complies and
  - design criteria that determines whether the structure type is single detached or multi-family and/or single level or multi-storey.
- **The term modular-built does not describe a type of home, just as the terms site-built or RTM do not describe a types of home.**
- **All three terms describe construction methods.**
  - commonly described homes include:
    - Bungalows                      town-homes
    - duplex's,                      two storeys, etc.,
- **All type of homes can be**
  - site-built, modular-built / RTM (built off site) or built using a combination of construction methods.



# UNDERSTANDING INDUSTRY TERMS

## ○ Park Model Trailer

- *a recreational unit for seasonal occupancy (3 seasons only)*
- built in accordance with CSA Z241
- on a single chassis mounted on wheels to facilitate relocation.
- it may be connected to utilities in order to operate the trailer's fixtures and appliances.





# COMMUNITIES WANT A BEAUTIFUL FINISHED HOME AND HOME SITE





# CHALLENGES

- Perception of the public



Thinking



Actually

- Need for collaboration from the architect to the engineer, the project manager and through the construction process
- Best practices when incorporating modular in construction projects



# SO NOW WE KNOW

- Factory-built (CSA A277) homes meet the same legislative requirements as site-built
  - Built to the provincial building code or CSA Standard
- Factory-built can be virtually indistinguishable from site-built
- Factory-built homes (materials) are protected from weather elements throughout building process
- Factory-built homes provide the same provincial warranty as other residential homes
- Factory-Built homes reduces CO<sub>2</sub> Emissions
- Factory-built limits construction time and saves the consumer money
- Factory-Built homes provide a safe working environment
- **Why Not Factory-built?**



# QUESTIONS



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