

ADVANCED CONSTRUCTION TECHNOLOGY FOR BUILDING AFFORDABLE HOUSING

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1 to 21 Storeys

(Using structural
steel modules)



**3 Storey Tri-plex residential building with
3 Two Bedroom Suites.**



**8 Storey mixed-use standard building
with 7 storeys of residential (70 units),
ground floor retail/commercial &
underground parking.**



**20 Storey mixed use standard building
with 19 storeys of residential (190
units), ground floor retail/commercial &
underground parking.**

A MODEL FOR ADVANCED CONSTRUCTION TECHNOLOGY TO CREATE:

more housing
in less time
at a lower cost
with better & more consistent quality



MINIMAL FABRICATION CUSTOMIZATION

Only 3 steel modules designs are required to provide for 6 residential suite layouts: Studio, 1 Bedroom, Bedroom & Den, 2 Bedroom, 2 Bedroom & Den, and 3 Bedroom including common area hallways & balconies.

TIER'S purpose-built fabricating facility provides for complete manufacturing and finishing of all modules employing 2 production lines capable of a maximum of five 8 storey building equivalents per year (*or two 20 storey buildings*) (*350 to 560 dwelling units per year per factory depending on suite mix*)

Standard Structural Modules

(Standard Module Dimensions)
as at 2026/Jul/27

HSS Column Positions & Module Width Specifications

Columns & Beams

W 200 x 22 ABY H-Beams at base on each side

7" x 7" HSS Vertical Columns

Wall thickness: Floors 1-7 = 8mm, Floors 8-14 = 7mm, Floors 15-21 = 6mm

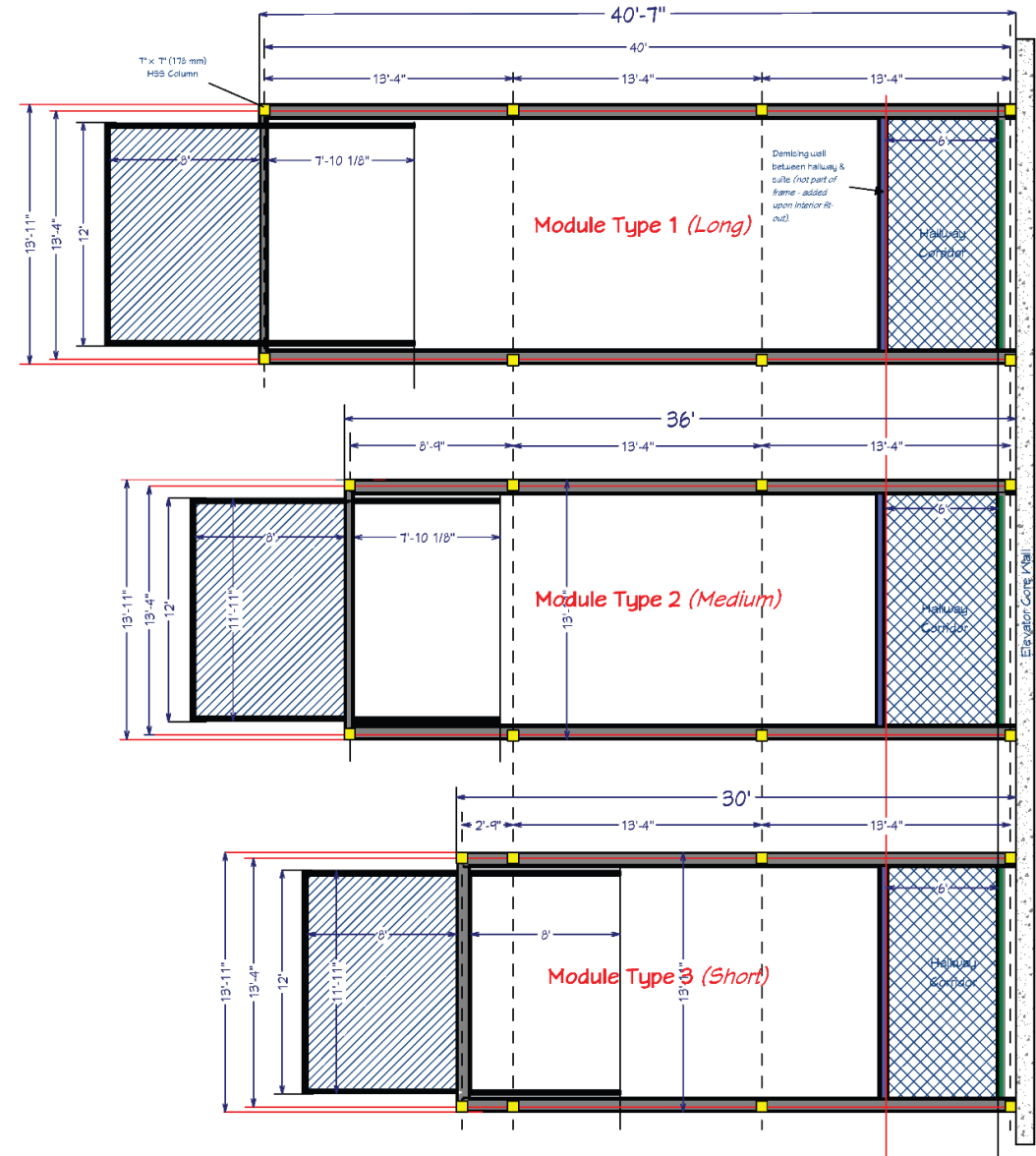
4" x 4" HSS Horizontal Cross-Member Beams

Interior: 2 layers of 5/8" drywall

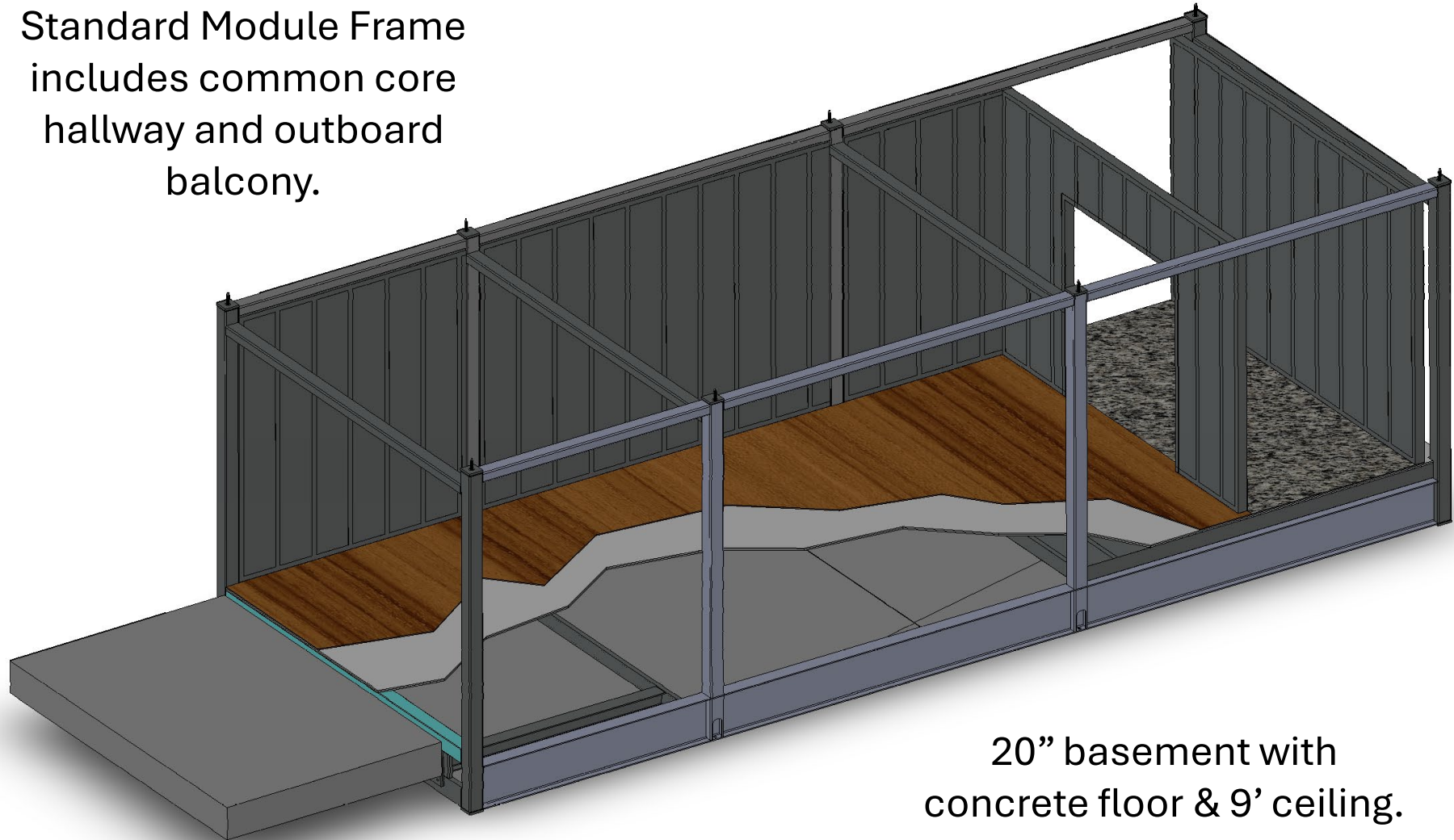
Exterior: 1 layer of 5/8" cement (or glass fibre) backer board between columns
flush with outside of columns

Vicwest RD306 Decking for Ceiling & Living Floor 203 mm (8") IMP Panel for Basement Floor

IMP Panel to be clad on top to taper from 4" thick at 28' from core to 0" thick at core
and from 4" thick at each edge to the centre line of longitudinal taper.



Standard Module Frame
includes common core
hallway and outboard
balcony.



20" basement with
concrete floor & 9' ceiling.

**Weld Steel Frames
& Integrate
Panelized Wall &
Floor Systems.**



**Finish Interior
& Clad Exterior.**



**Clean & wrap for
transport to site.**



**Place Modules &
Connect Utilities.**





Standard (*Repeatable*) Module Design

Standard (*Repeatable*) Building Design

Off-Site Pre-fabricated Structural Steel Modules

On-site Conventional Construction



INNOVATIVE / SUSTAINABLE

- Standard Module Design / Standard Building Floorplate – repeatable & scalable
- Structurally Designed for up to 21 storeys
- Totally Self-Contained Modules (*no penetrations thru modules below*)
- Plumbing Leak-Proof (20” basement, *with space for all plumbing, HVAC & HRV equipment and “full floor drain pan” connected to sewer riser in hallway space.*)
- Fire-Proof & Hail Proof Exterior Cladding with Cement Board Backing
- Smoke Mitigating (Air-tight Insulated with Heat Recovery Ventilation & MERV 13 Filter)
- Earthquake-Tolerant up to Zone 5 (*Victoria, BC*)



AFFORDABLE TO ACQUIRE *(Rent or Purchase)*

- Average cost per suite gets lower with every storey built, due to land component cost
- Average cost per building gets lower with every building, due to reusable Architectural & Engineering designs *(saving hundreds of thousands of dollars per building, by repeating a standard design)*
- Build time from start to occupancy is reduced by 40% to 50% of conventional construction methods, due to overlapped on-site construction & off-site fabrication *(saving up to 50% of financing carrying costs)*



AFFORDABLE TO OPERATE

- Intelligent Mitsubishi HRVF (*Hybrid Variable Rate Flow*) System
 - Refrigerant based central system feeds distribution hubs on each floor
 - Water based distribution on each floor into suites eliminating leak sensors
- Mitsubishi HRV (*Heat Recovery Ventilation*) system with smoke filter in each suite
- High Efficiency Centra Heat Pumps (*150% – 170% efficient*)
(*Air or Ground Source depending on location - heating & cooling*)



PRICING EXAMPLE

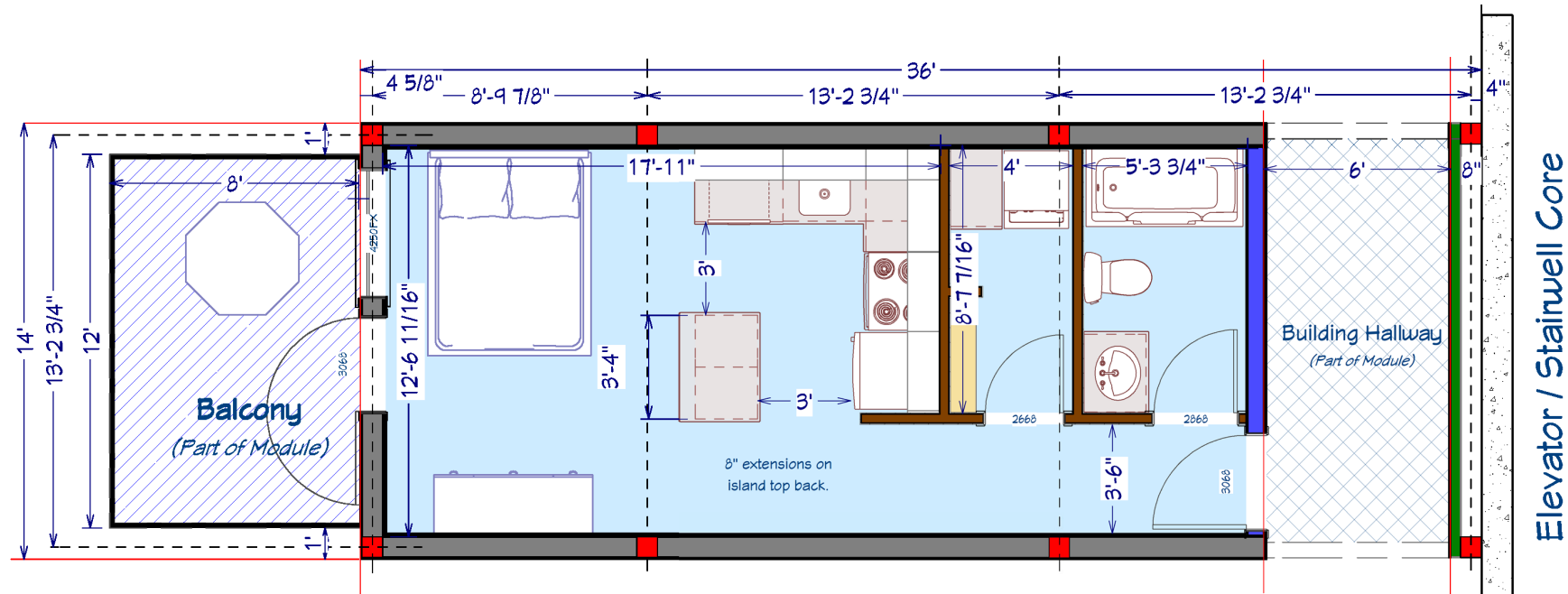
486 sq. ft. Studio Suite

(Including: wall bed / bookshelf unit & in-suite laundry & storage room)

Purchase Price starting at **\$169,900.***

(\$808. / month based on 95% mortgage over 25 years @ 3.5%)

** depending on municipality & land cost*

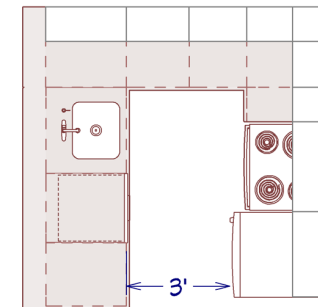


Wall Bed Included

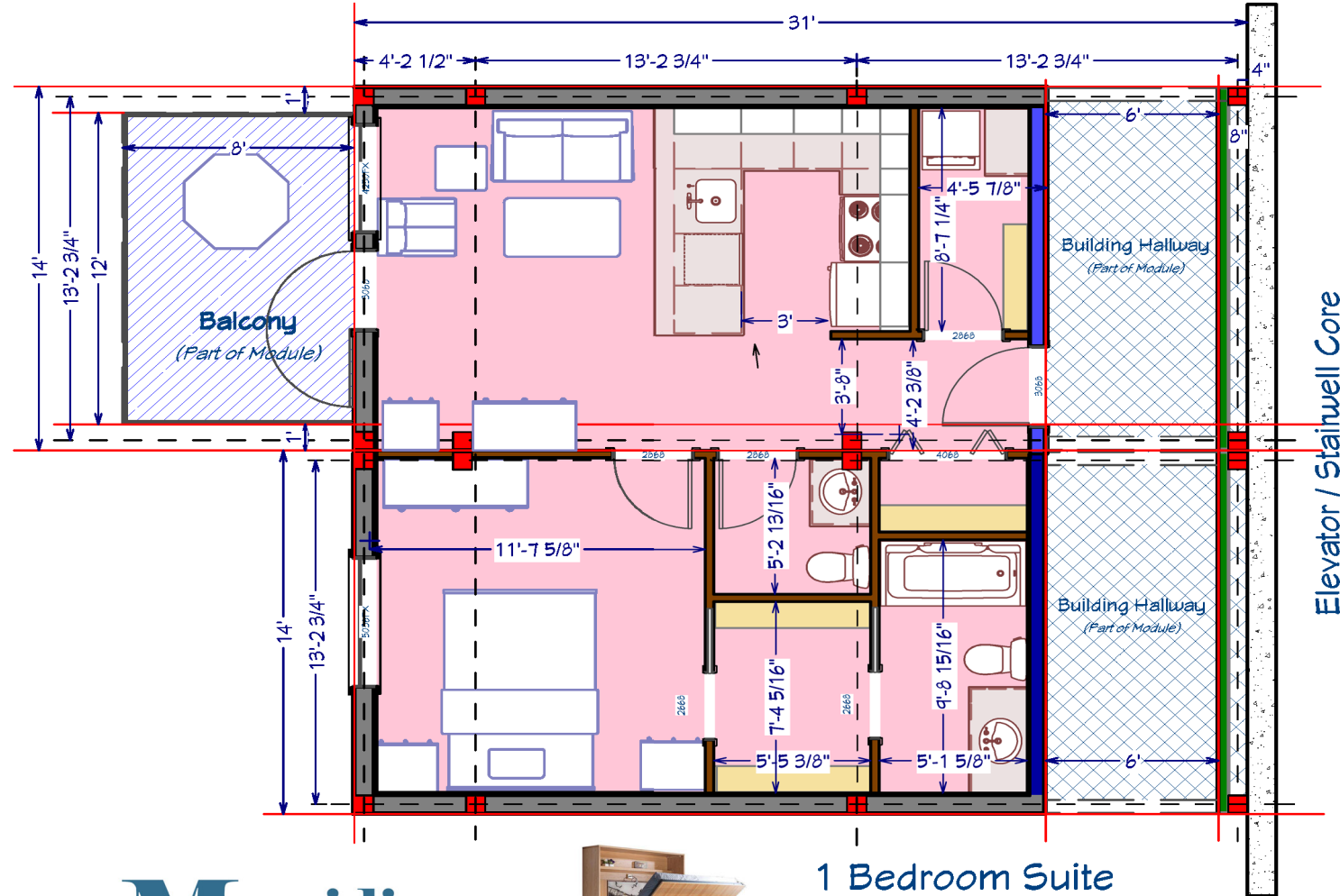
Studio Suite

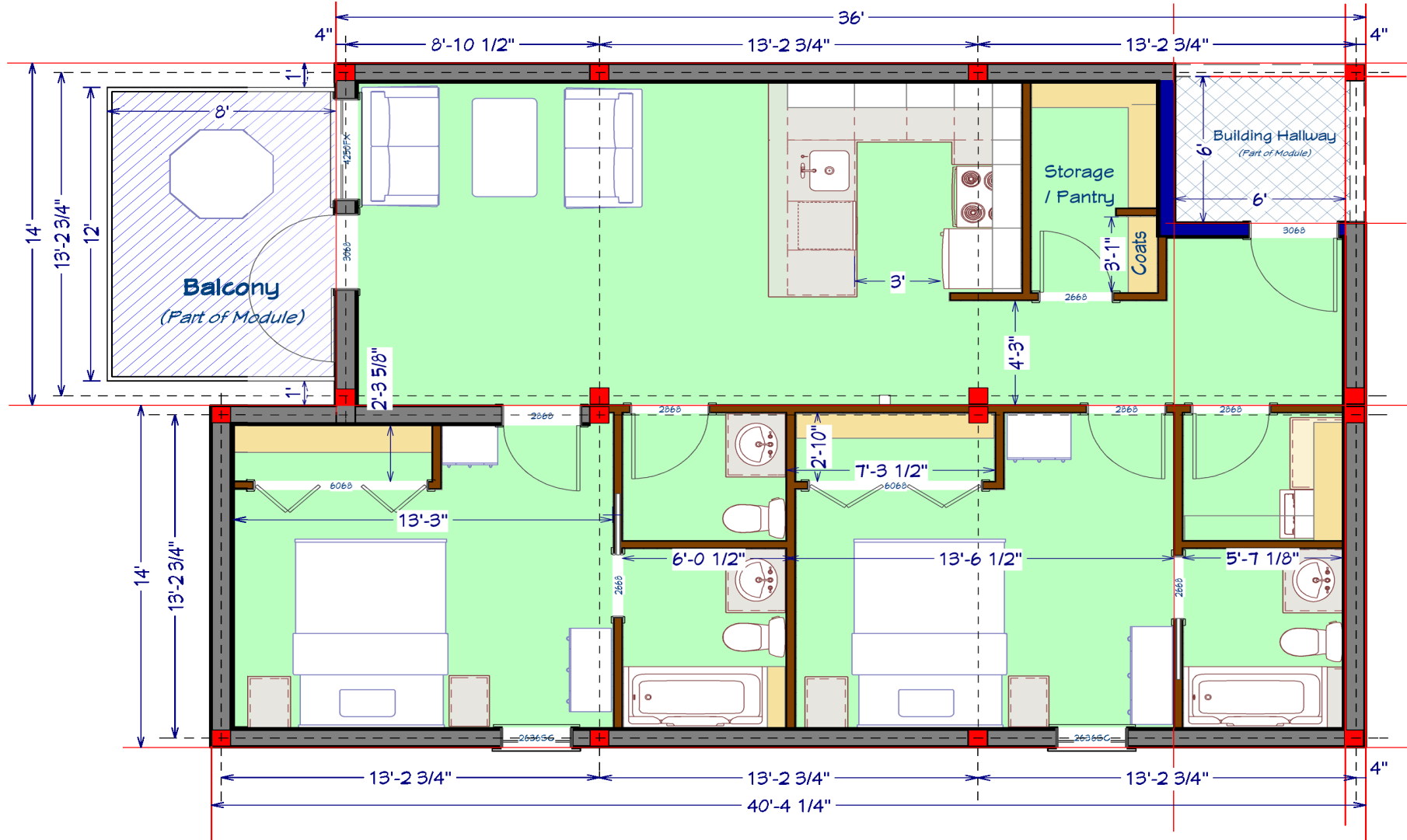
(as at 2025-07-06)

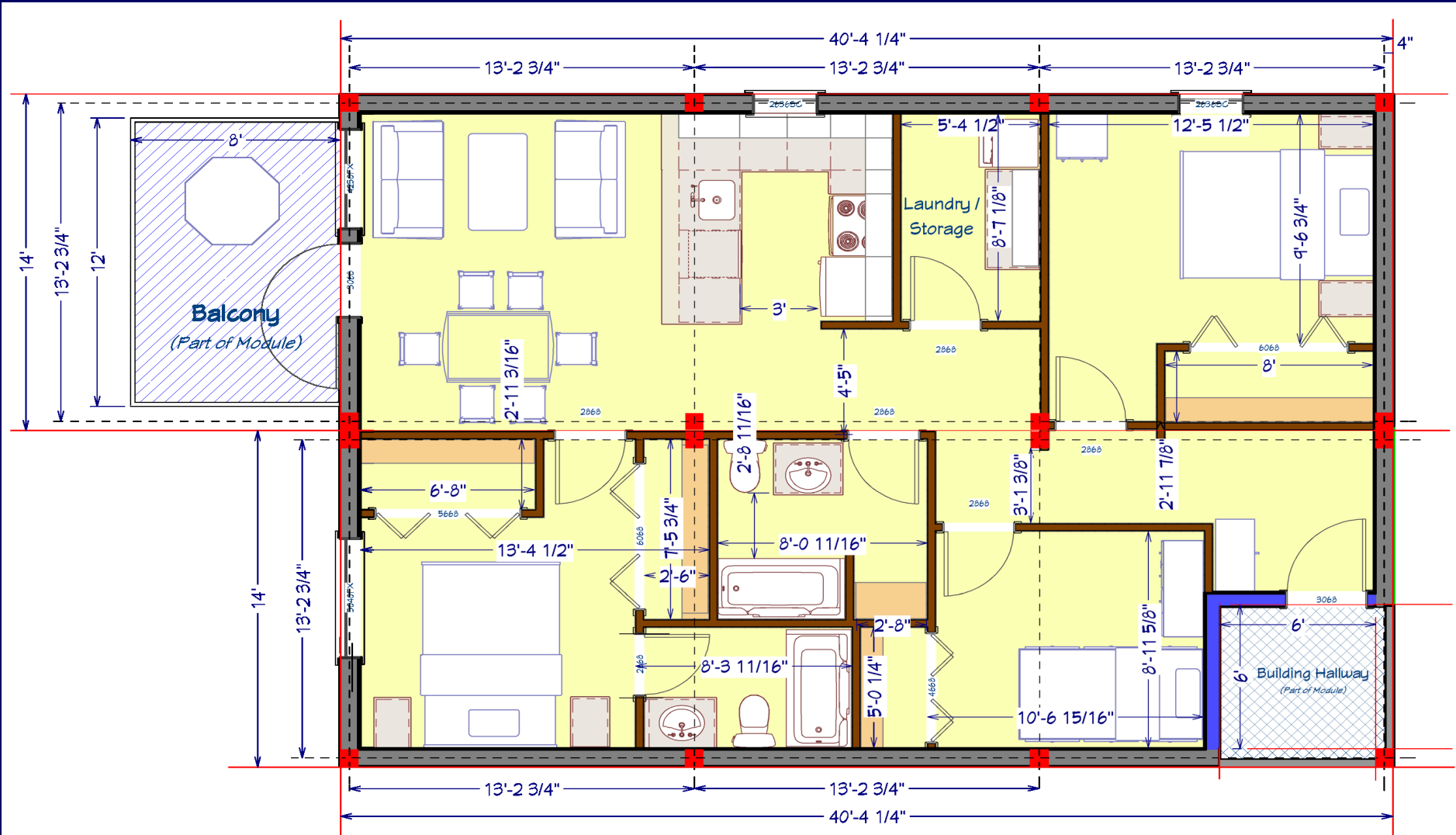
486 sq. ft.



Alternate Kitchen Layout







HOMELESS SUPPORT

**One Suite in Every Mid Rise / High Rise Building Built by Mercidian
Will be donated to a Person or Family in Most Need**

*(as selected by the Municipality or Non-Profit Intake Agency
In the municipality where the building is constructed)*

SENIOR MANAGEMENT



FRED JOHNSTON, President & CEO

Commercial Real Estate Development, Construction & Sales 1995 to date

CommunityFirst Health Centres, Community First Diagnostic Imaging

Lake Sundance Business Centre

Akokli Creek Resort

Kaniksu Sands Resort

Computer Software Development and Project Management 1970 to 1994

Designed, programmed, maintained, and managed information systems for companies including Riley's Datashare International, Calgary Power Ltd., TransAlta Utilities Corporation, Cybernetics Computer Systems, Re/Max of Western Canada, DenTell Systems, E.K. Williams & Company International, B.C. Tree Fruits Ltd. And SunRype Products Ltd.

Professional Associations

Rotary International

Toastmasters International

Systems Committee Chairman, Texas Instruments Users Group

University of Calgary, Faculty of Engineering 1967 to 1969

Completed common courses curriculum in Civil, Mechanical, Electrical, and Chemical Engineering.

Khosrow (Ken) Ghavami, Sr. Vice President, Manufacturing

EDUCATION

Masters of Science, Electronics – Major in Robotics Technical University of Darmstadt, Germany
Construction Management Certificate - Southern Alberta Institute of Technology. Calgary
Project Management Professional (PMP) Certificate - Mount Royal University. Calgary
ITIL Service Management & Delivery - Pink Elephant Training and Consulting. Toronto

NEW HOME CONSTRUCTION 2003 - Present

New Sunrise Homes Ltd. (Modular Homes), Calgary, AB
Silverwood Luxury Modular Log Homes, Calgary, AB

INFORMATION TECHNOLOGY CONSULTING & MANAGEMENT 1985 - 2002

All-Tech Security Consulting, Calgary, AB
Consultant

ZI Corporation, Calgary, Hong Kong and Beijing
VP Global Projects & Director of IT - software integration

Future Links, Calgary, AB

Senior Consultant/Business Analyst - application testing, user training and acceptance

Quantam Data, Calgary, AB

Service Manager Technical Services - Calgary Health Authorities (Hospitals in Calgary) and
Tom Baker Cancer Center, TELUS Mobility, and several Oil & Gas companies



CORPORATE TERRITORY & EXPANSION PLANS

MERCIDIAN DEVELOPMENT & TIER Modular head office & primary fabricating facility:
Calgary, AB

MERCIDIAN plans to confine it's dedicated/exclusive territory to Western Canada
British Columbia, Alberta, Saskatchewan & Manitoba

TIER Modular plans to build additional purpose-built fabricating facilities in:
Victoria, BC * Merrit, BC * Olds, AB * Winnipeg, MB

National & International expansion will be by way of:
Technology Licensing Agreements

**MERCIDIAN DEVELOPMENT CORPORATION
BUILDING DESIGN LICENSING PROGRAM**



TERRITORY LICENSE FEE
(Exclusive Geographically Defined Territory)
\$269,500. CAD
per 500,000 territory population

Includes:

- module structural engineering drawings
- Architectural fit out drawings
- start up training/consulting
- volume-purchase supply chain pricing for materials, fixtures & appliances
- 5 Year Renewable License, subject to an annual quota of 8 storey equivalents/year
(if quota cannot be met, License can be maintained by paying a top up for quota shortfall)

BUILDING PER STOREY FEE
\$29,500. CAD
per storey on approved Development Permit Application

Includes Building Plans, Building Code review for local jurisdiction, Development & Building Permit Application assistance, Architectural & Engineering oversight.

TIER MODULAR CORPORATION
MANUFACTURING FACILITY LICENSING PROGRAM



TERRITORY LICENSE FEE
(Exclusive Geographically Defined Territory)
\$375,000. CAD
per 500,000 territory population

Includes:

- *module structural engineering drawings*
- *Architectural fit out drawings*
- *start up training/consulting*
- *volume-purchase supply chain pricing for materials, fixtures & appliances*
- *5 Year Renewable License, subject to an annual quota of 112 modules/year*
(if quota cannot be met, License can be maintained by paying a top up for quota shortfall)

PER MODULE FEE
\$2,900. CAD
per module fabricated

EXIT