

MSFC Occupancies



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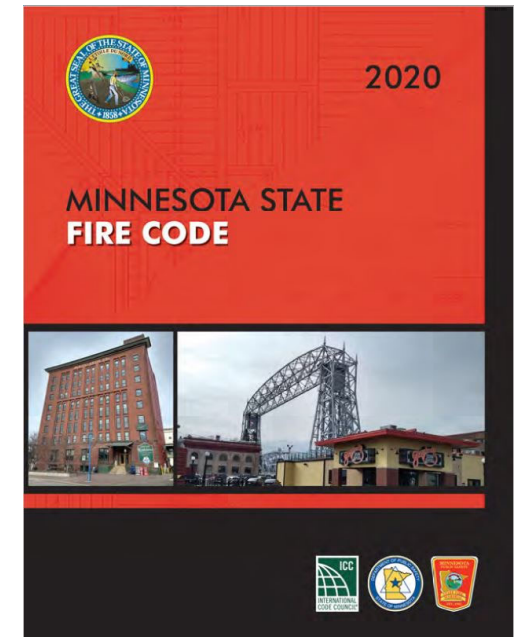
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MINNESOTA STATE FIRE MARSHAL DIVISION

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2020 Minnesota State Fire Code (MSFC)

- Hope you have your book with you today
- Or the electronic version at ICC's website
 - **It will be helpful to follow along**



Learning Objectives

- Brief history of definitions and how they have evolved
- Identifying occupancy classifications and apply to buildings and uses
- Role of the architect and code official
- Why it is so important to get this right
- Understand change in use

Quick Reference to Occupancy Classifications

- Go to page xix of the 2020 MSFC
- Short list of most common uses

OCCUPANCY CLASSIFICATIONS MN State Fire Code – 2020

- Group A – Assembly (50 or more persons):
- A-1 – Theaters (performing arts, fixed seats)
 - A-2 – Dining and drinking (bars, restaurants, clubs)
 - A-3 – Auditoriums, gymnasiums, museums, worship, libraries, recreation, amusement, etc.
 - A-4 – Arenas, swimming pools, tennis courts (indoor spectator seating)
 - A-5 – Stadiums, grandstands (outdoor seating)
- Group B – Business:
- Professional services
 - College/university classrooms
 - Offices
 - Clinics (including outpatient)
 - Motor vehicle showrooms
 - Electronic data processing
 - Assembly – less than 50 persons
- Group E – Educational (through 12th grade):
- Pre-school
 - K-12
 - Adult Day Care (occupants capable of escape)
 - Day Care – older children (see I-4 for younger)
- Group F – Factory/Industrial:
- Group F-1 – Moderate Hazard (combustible materials):
 - Aircraft
 - Automobiles
 - Boats
 - Metals
 - Rugs
 - Woodworking
 - Group F-2 – Low Hazard – Not a significant fire risk (mostly non-combustible materials):
 - Non-alcoholic beverages
 - Brick & Masonry
 - Ceramic products
 - Glass
 - Gypsum
 - Ice
 - Metal Products (fabrication & assembly)
- Group H – Hazardous Occupancies:
- Group H-1: detonation hazard (explosive materials)
 - Group H-2: deflagration/accelerated burning (flammable/combustible liquids in use, dusts)
 - Group H-3: readily support combustion or pose physical hazard (flammable/combustible liquids in storage, flammable solids, Class 2 or 3 oxidizers)
 - Group H-4: health hazards (corrosives, toxic and highly toxic materials)
 - Group H-5: semiconductor fabrication
- Group I – Institutional:
- Group I-1 (more than 16 persons):
 - Supervised custodial care (assisted living, group homes, congregate care, half-way houses, board & care, Supervised living facilities – Class A-2)
 - Group I-2:
 - Hospitals
 - Nursing homes
 - Detox centers
 - Supervised living facilities – Class B-3
 - Group I-3: jails, prisons, detention centers
 - Group I-4: Adult day services and child day care facilities for 6 or more persons receiving custodial care
- Group M – Mercantile:
- Stores
 - Retail/wholesale stores
 - Sales rooms
 - Motor vehicle fuel dispensing (no repairs)
- Group R – Residential:
- Group R-1 (transient in nature < 30 days):
 - Hotels/Motels
 - Boarding houses – Congregate living (>10)
 - Lodging house ≥ 6 guest rooms or > 10 occupants
 - Group R-2 (Nontransient > 30 days):
 - Apartments – Condominiums
 - Dormitories
 - Congregate living facilities – (> 16)
 - Fraternities and sororities (>16)
 - Convents/Monasteries
 - Group R-3:
 - One- & two-family homes
 - Lodging house < 6 rooms or < 10 occupants
 - Boarding houses/Congregate living (< 6)
 - Day care (family & group family) (< 6)
 - Housing w/services/Assisted Living (< 6)
 - Supervised living facilities (A-1 and B-1)
 - Group R-4:
 - Supervised residential care (6–16 people)
 - Housing w/services/Assisted living
 - Treatment facilities
 - Supervised living facilities (A-2 and B-2)
- Group S – Storage:
- Group S-1: moderate hazard (combustible):
 - Combustible materials
 - Vehicle repair garages
 - Group S-2: low hazard (non-combustible):
 - Metal items
 - Glass, ceramic, food products
 - Parking garages
- Group U – Miscellaneous:
- Private garages/Carports
 - Agricultural buildings/Barns/Greenhouses
 - Fences/Retaining Walls
 - Towers/Tanks
 - Sheds

Letter Designations in Front of Section Numbers

- Development Committees
 - See pages xxii and xxiii
 - No bracket = International Fire Code
 - [A] = Administrative Code
 - [BE] = IBC – Egress Code Development
 - **[BG] = IBC - General Code Development**
 - [BF] = IBC – Fire Safety Code Development
 - [M] = International Mechanical Code
 - [EB] = International Existing Building Code Development

History of Definitions

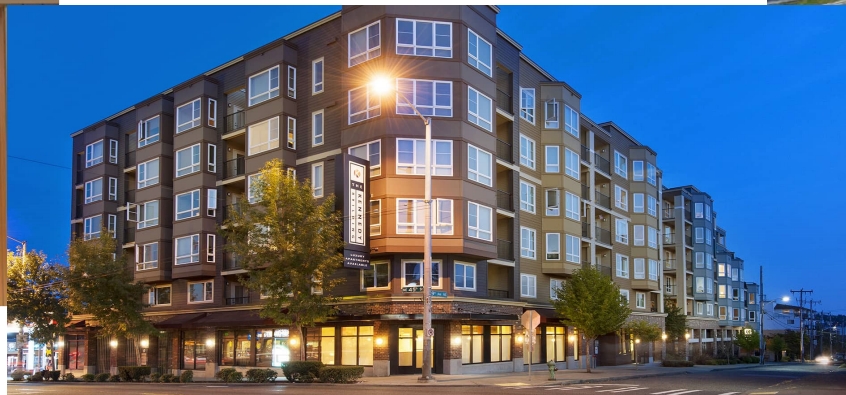
- 2009 IFC Introduced *italicized* terms
 - **Not all definitions are italicized**
 - Chapter 2 Unwanted fire
 - **401.3.1 Fire events.** In the event an **unwanted fire** occurs on a property...
 - **Italicized terms**
 - Recommended reading
 - Don't assume you understand the definition
 - **Examples**
 - **503.4.1. Traffic calming devices.** Traffic calming devices shall be prohibited unless *approved* by the *fire code official*.
 - **APPROVED.** Acceptable to the *fire code official*.

History of Definitions

- 2012 IFC all definitions moved to Chapter 2
 - **302.1 Definitions. These terms are defined in Chapter 2**
 - **BONFIRE**
 - **HI-BOY**
 - **502.1 Definitions. These terms are defined in Chapter 2**
 - **AGENCY**
 - **FIRE COMMAND CENTER**
 - **5302.1 Definitions. These terms are defined in Chapter 2**
 - **COMPRESSED GAS CONTAINER**
 - **NESTING**

Occupancy Classifications

- Pages 38 to 45



Occupancy Classification

- Occupancy definition describing the use
- A list of uses under the definition includes this
 - **“including, but not be limited to, the following:”**

Who is responsible for defining the use?

- Minnesota licensed design professional
 - **Minnesota Rule 1800.5200**
- Code official's role
 - **Agree or disagree with the architect**
 - **Must get this right**
 - **Impacts many code sections**
 - Especially Chapter 9 and 10

Assembly

- Important to read the general definition
- A number of exceptions
 - **Small buildings or tenants**
 - **Small assembly spaces**
 - **Associated with Group E**
 - **Accessory with places of religious worship**

Assembly

- Group A-1
- Group A-2
- Group A-3
- Group A-4
- Group A-5

Group A-1 Movie Theater



Group A-1 Ordway



Group A-2 Restaurant

Food and/or drinks
consumed



Group A-2 Nightclub



Casino Gaming Areas



Group A-4 Arenas



A-4 State Fair Coliseum

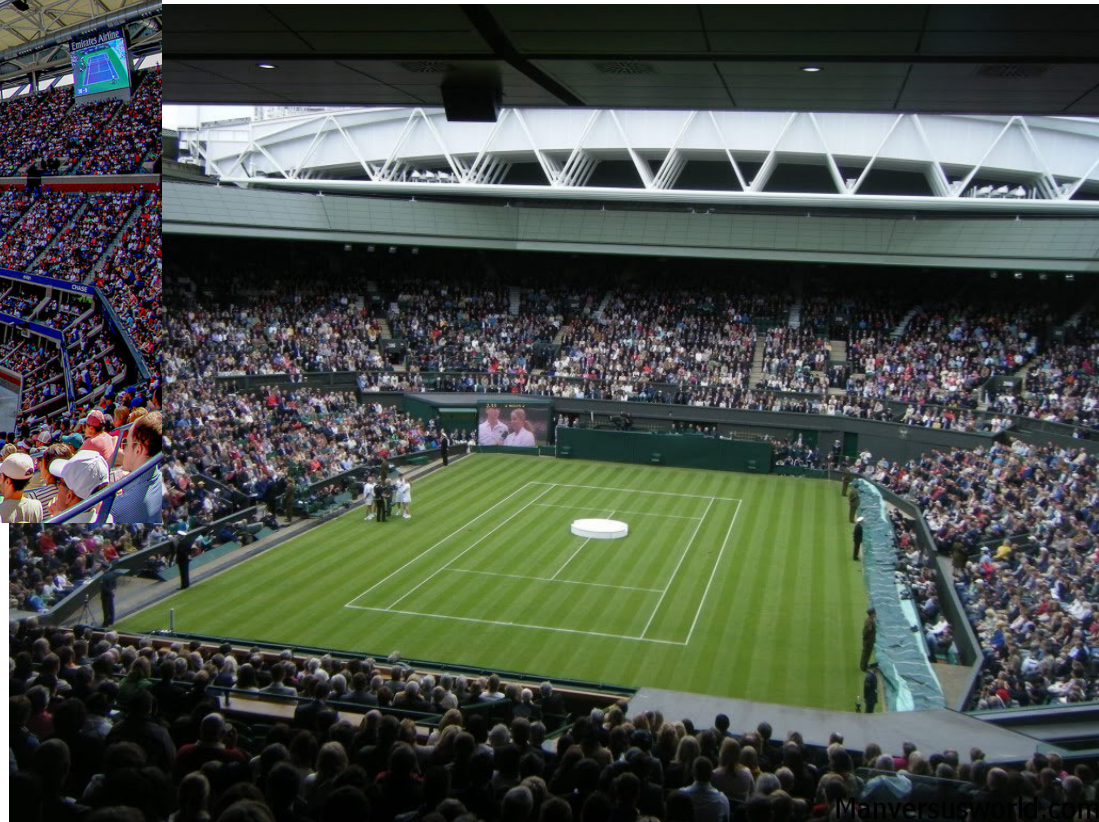


7121 Photo.
8355.

Group A-4 becomes...



...Group A-5



A-5 Large Stadium



A-5 Small Stadium



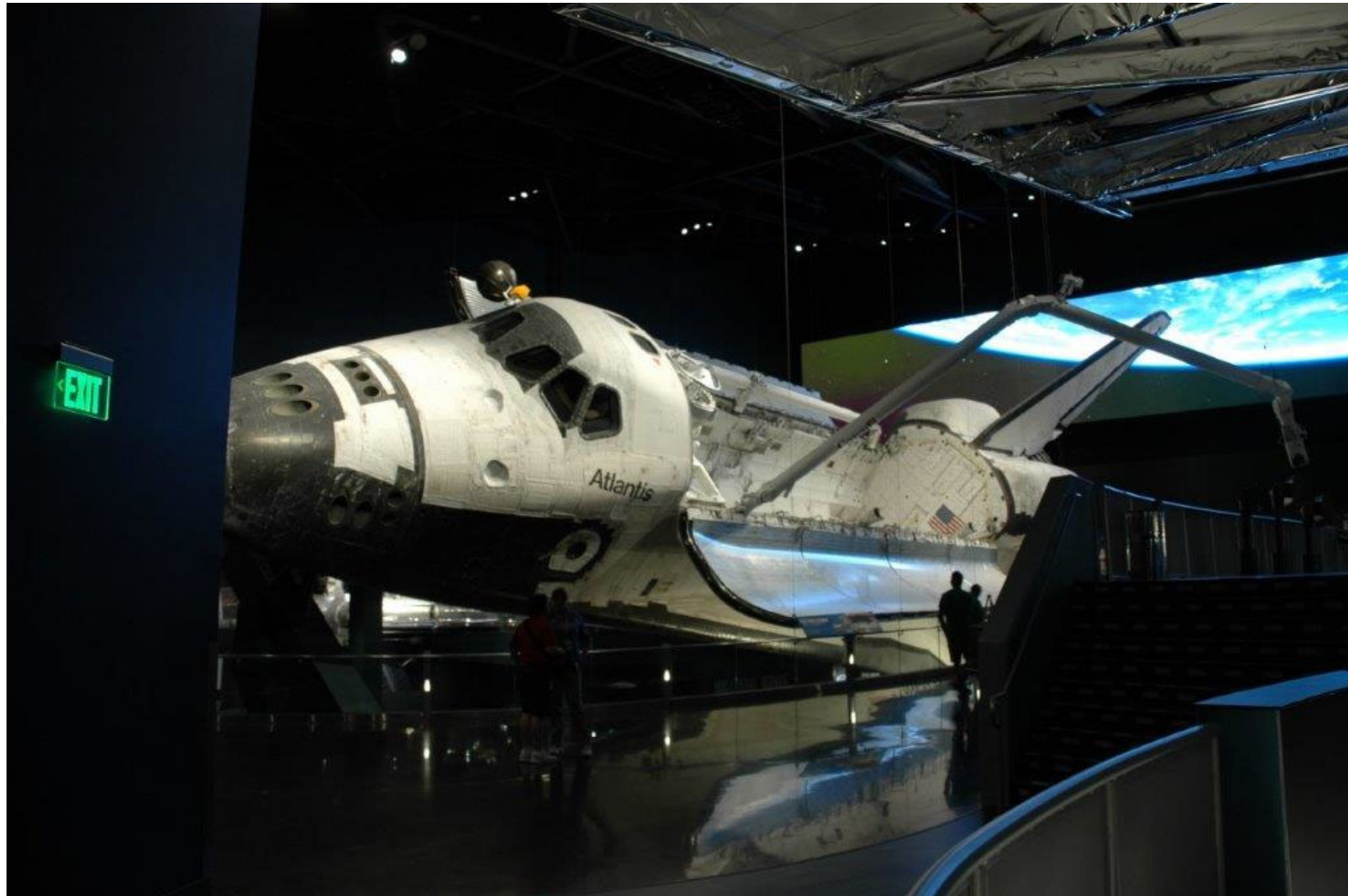
Bleachers



A-5 Amusement Park



Group A-3 Museum



A-3 Places of Religious Worship



Family and Friends gathering



A-3 Lecture Hall



The Courtroom



Group B - Businesses



Ambulatory Care Facility *

- Buildings or portions of buildings
- Medical, surgical, psychiatric, nursing, or similar care
- Less than 24-hour basis
- Patients are rendered incapable of self-preservation by the services provided
 - **It is not a Kidney dialysis facilities on the level of exit discharge**
 - **It is not sedation dentistry**

3rd Floor Surgery Center



Group E - Education



Day Care Facilities

- Group E when there are 6 or more kids over 2-1/2 years of age
- In a building with 5 or fewer kids it is classified as part of the primary occupancy
- This same operation in a dwelling unit with 5 or fewer kids is classified as Group R-3 or shall comply with the residential code

Places of Religious Worship

- Accessory use for education rooms or auditoriums
 - **When less than 100 per room or space**
 - **Part of the Group A-3**

- Day care
 - **When used during religious functions, part of A-3**

Factory

- Group F-1 Moderate Hazard



Factory

- Group F-2 Low Hazard
 - Fabrication or manufacturing noncombustible materials



Ice Making



Hazardous Occupancies

- Manufacturing, processing, generation, or storage of materials inside buildings
- Pose physical or health hazard
- Exceed the MAQ per control area
 - **Tables 5003.1.1(1) and 5003.1.1(2)**
- On roofs or canopies is outdoor storage
- See 17 exceptions page 40

Hazardous

- Group H-1 *Detonation* ($>$ speed of sound)
- Group H-2 *Deflagration* ($<$ speed of sound)
- Group H-3 Physical hazard, support combustion
- Group H-4 Health hazard
- Group H-5 Semiconductor
– **See Chapter 27**
- See Section 104.7.2 for technical assistance



Institutional

- Group I-1 – 17 or more supervised and cared for
 - **Group R-4** **6 to 16 residents**
 - **Group R-3** **1 to 5 residents**
- Group I-2 – Hospitals, nursing homes, SLF Class B-3
 - **Medical treatment & incapable**
- Group I-3 – Detention, Correctional, Jail
 - **Conditions 1 to 5**
 - **Based on the occupant's freedom to move about**
- Group I-4 – Day care, adult and child

Group I-1 - 127 Units Ind. & AL / 43 Dementia Units



Chapter 2 – Definitions

Group I-1 Conditions (residential care facilities)

- **Condition 1:** Where all persons in custodial care are capable of responding and evacuating without assistance during an emergency
- **Condition 2:** Where one or more persons in custodial care require limited verbal or physical assistance to respond and evacuate during an emergency

63 Bed Nursing Home



Chapter 2 – Definitions

Group I-2 Conditions (24 hour medical care - nursing homes, hospitals)

- **Condition 1:** Does not provide emergency care, surgery, obstetrics, or in-patient stabilization units for psychiatric or detoxification (e.g. nursing homes)
- **Condition 2:** Provides nursing and medical care and could provide emergency care, surgery, obstetrics, or in-patient stabilization units for psychiatric or detoxification (e.g. hospitals)

Duplex or Group R-4?



Chapter 2 – Definitions

Group R-4 Conditions (residential care)

- **Condition 1:** Where all persons in custodial care are capable of responding and evacuating without assistance during an emergency
- **Condition 2:** Where one or more persons in custodial care require limited verbal or physical assistance to respond and evacuate during an emergency

Group R-3 or a House?



[Report a problem](#)

© 2014 Google

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Google earth

44°54'54.13" N 93°23'04.10" W elev 949 ft eye alt 936 ft

Group I-4 Day Care and Day Services

- Adult day services
- Child care centers

- Qualifications to be classified as Group E
 - This will have an impact on fire sprinkler protection in child care centers**

- Adult day services go to Chapter 81
 - Defines when Group I-4 or Group E**

Chapter 2 – Definitions

ADULT DAY CARE CENTER OR ADULT DAY SERVICES CENTER*

A facility, licensed by the Department of Human Services under Minnesota Rules, parts 9555.9600 to 9555.9730, that provides a program of adult day care services to functionally impaired adults for periods of less than 24 hours per day in a setting other than a participant's home or the residence of the facility's operator.

Chapter 2 – Definitions

Group I-4, day care & day services facilities*

- **Revised language for Classification as Group E**
- **Includes classification options from Chapter 81 for adult day care/day services**
 - All persons capable of self-preservation, or
 - Not more than 50% incapable of self-preservation, and
 - Care rooms located on LED
 - Exits discharge direct to grade without intervening stairs
 - Fire alarm system including smoke detection in egress corridors

Mercantile - Retail



Residential

- Group R-1 Hotel, motel, bed & breakfast (6+), et al
 - **People are transient in nature, ≤ 30 days**
- Group R-2 more than 2 dwelling units
 - **Non-transient, primarily permanent in nature, > 30 days**
- Group R-4 with 6 to 16 residents
 - **Receiving custodial care**
 - **Same Condition 1 and Condition 2 for Group I-1**
- Group R-3 not classified as one of the others
 - **Single family, two-family and townhouses**
 - **Licensed facilities and residential hospice <6**

Residential

- Group R-4 with 6 to 16 residents
 - Receiving custodial care
 - Same Condition 1 and Condition 2 as for Group I-1
 - New Group R-4 will require sprinklers
- Group R-3 not one of the others
 - Single family, two-family and townhouses
 - Hospice with 5 or less
 - Two dwelling units above a store front

Chapter 2 – Definitions

Group R* (residential)

- Revised for clarity
- R-3 and R-4 care facilities
 - Group R-3 and R-4 occupancies located in a one- or two-family dwelling or townhouse and classified as a “dwelling unit” in Table 202.1:
 - Constructed in accordance with either the Building Code or the Minnesota Residential Code, and
 - Equipped with an automatic sprinkler system where required by Section 903.2.8.

Section 202

Chapter 2 – Definitions

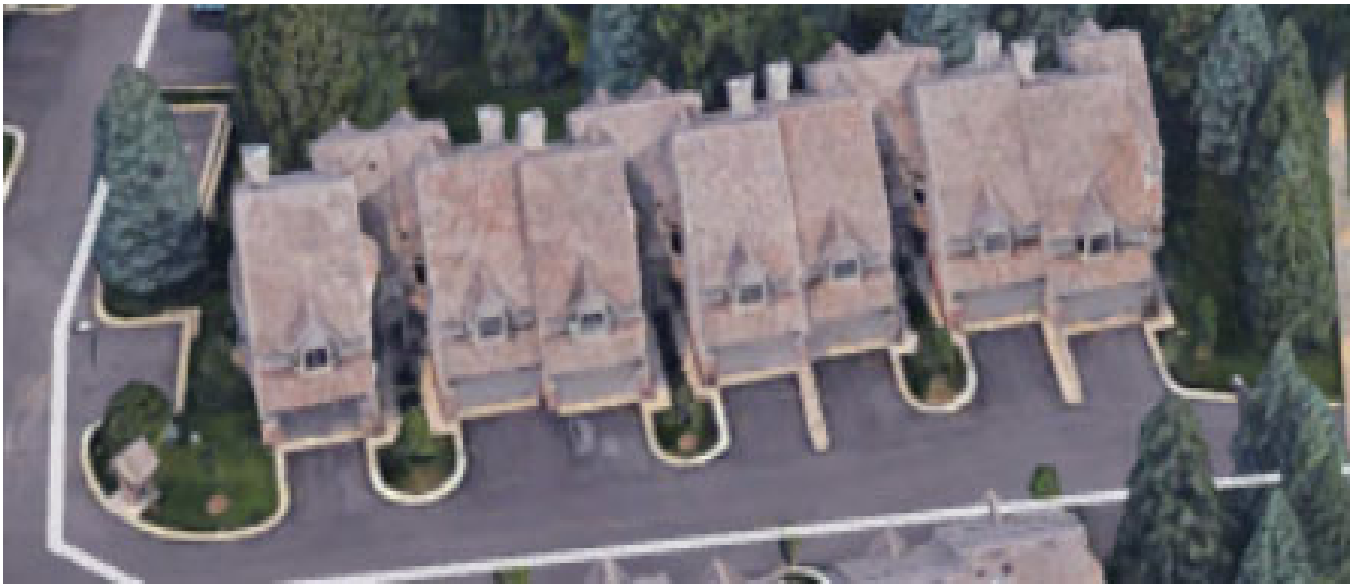
Group R* (residential)

- **Group R-3 owner-occupied lodging houses**

Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer total occupants shall be permitted to be constructed in accordance with the MN Residential Code.

Townhouse

- A single-family *dwelling unit*
 - **Group of three or more attached**
 - **Each unit extends from the foundation to roof**
 - **Open space on at least two sides**



Supervised Living Facility *

SLF

- A facility in which supervision, lodging, meals provided
- Under the rules of the DHS and the MDH
 - **Counseling and developmental habilitative or rehabilitative services are provided**
 - **To persons who are**
 - Chemically dependent
 - Adult mentally ill
 - Physically or developmentally disabled
- 5 Classes of sub-definitions

SLF *

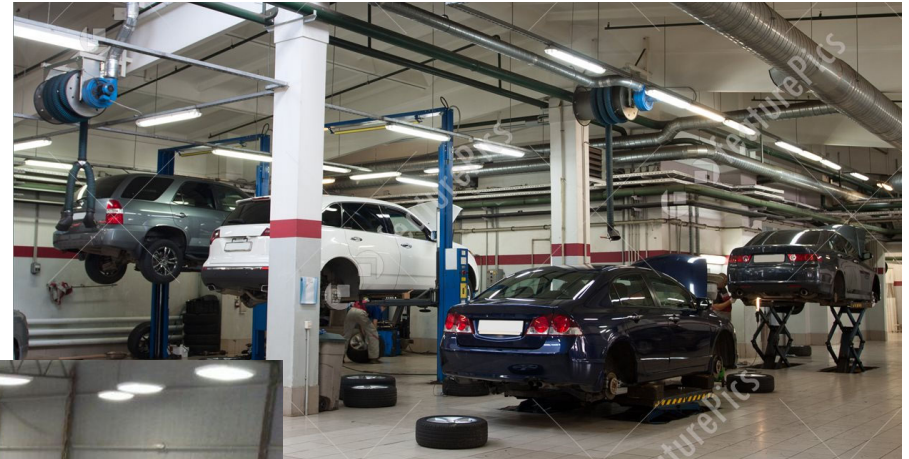
- 5 classifications
 - **Class A-1 - 6 or less capable - R-3**
 - **Class A-2 - 7 or more capable - R-4**
 - **Class B-1 - 6 or less not capable - R-3**
 - **Class B-2 - 7 to 16 not capable - R-4**
 - **Class B-3 - 17 or more not capable - I-2**
- Based on capability to respond to emergency
- Total number of occupants
- Occupancy classification based on Section 8104

Residential Hospice Facilities

- Chapter 81, Section 8103
- Also provides occupancy classification and reference to 2012 edition of NFPA 101, Life Safety Code
- Group R-4 - 6 to 12 residents
- Group R-3 - 1 to 5 residents

Storage

- Group S-1 Moderate Hazard



Storage

- Group S-2 Low Hazard



Utility - Accessory



Chapter 2 – Definitions

TABLE 202.1: CARE FACILITY CLASSIFICATIONS*

Changes:

- Merged adult day care and adult day services
- Adjusted for new “condition” definitions for Groups I-1 and I-2
- Added to table:
 - Mental health treatment programs (merged with chemical dependency programs licensed by DHS)
 - Added day training and habilitation programs (licensed by DHS)
 - Ambulatory care facility
 - Nursing home
 - Hospitals

Chapter 2 – Definitions

TABLE 202.1: R-3 vs R-3 dwelling unit

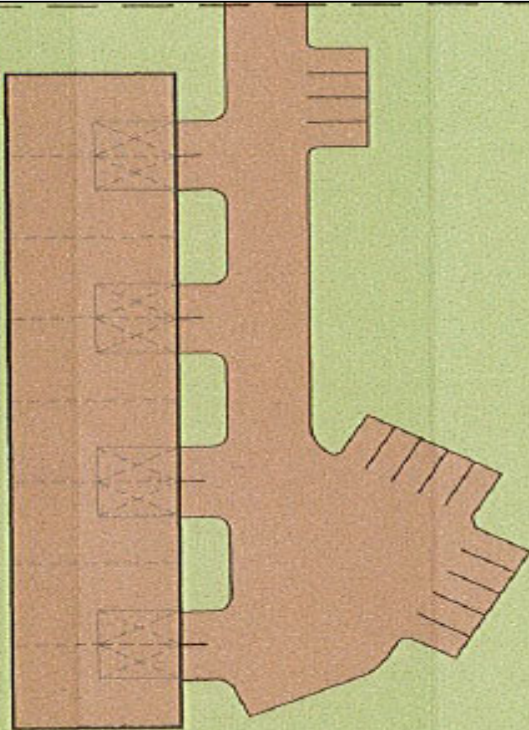
Boarding and lodging	≤ 16 residents in sleeping rooms or ≤ 2 dwelling units in one building	R-3
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Adult foster care home	1–5 impaired adults	R-3 Dwelling unit
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Example:

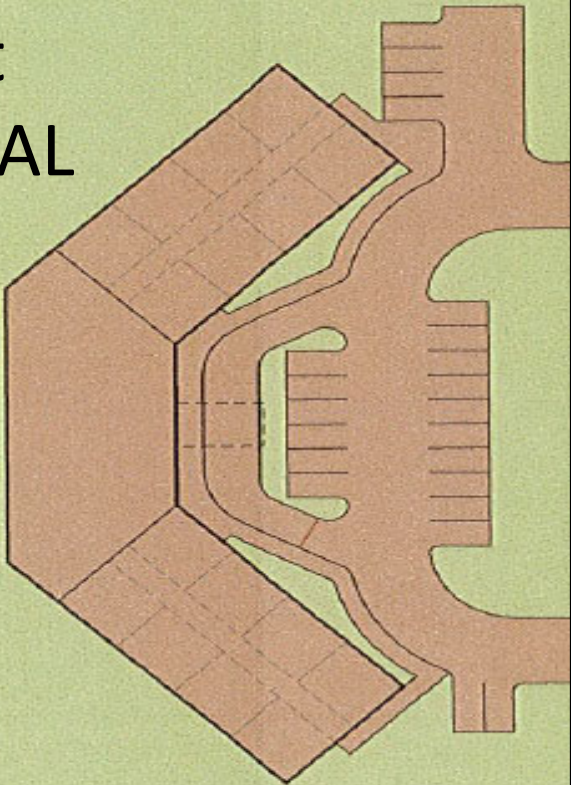
- A boarding and lodging facility in single family dwelling with 16 or fewer residents is classified as an R-3
 - Per 903.2.8, Group R-3 occupancies require sprinkler protection
- An adult foster care home with 1-5 impaired adults is classified as an R-3 dwelling unit
 - Per 903.8, a Group R-3 dwelling unit less than 4,500 ft² is exempt from sprinkler requirements unless specifically required under condition of licensing

Classification Exercise



8 – 1,200 sf
apartments

16 unit
HWS - AL



Strip Mall Mixed Use Occupancy

**Jake's
Subway**

Seating
for 20
and
standing
space 15

**Ralphie
The
Barber**

**John's
Pretty
Good
Pet
Food &
Supply**

**Randi's
Child
Care**

Caring
for 6
months
to 5
years old

**Nolan's
Automotive
Emporium**

Storage
Room

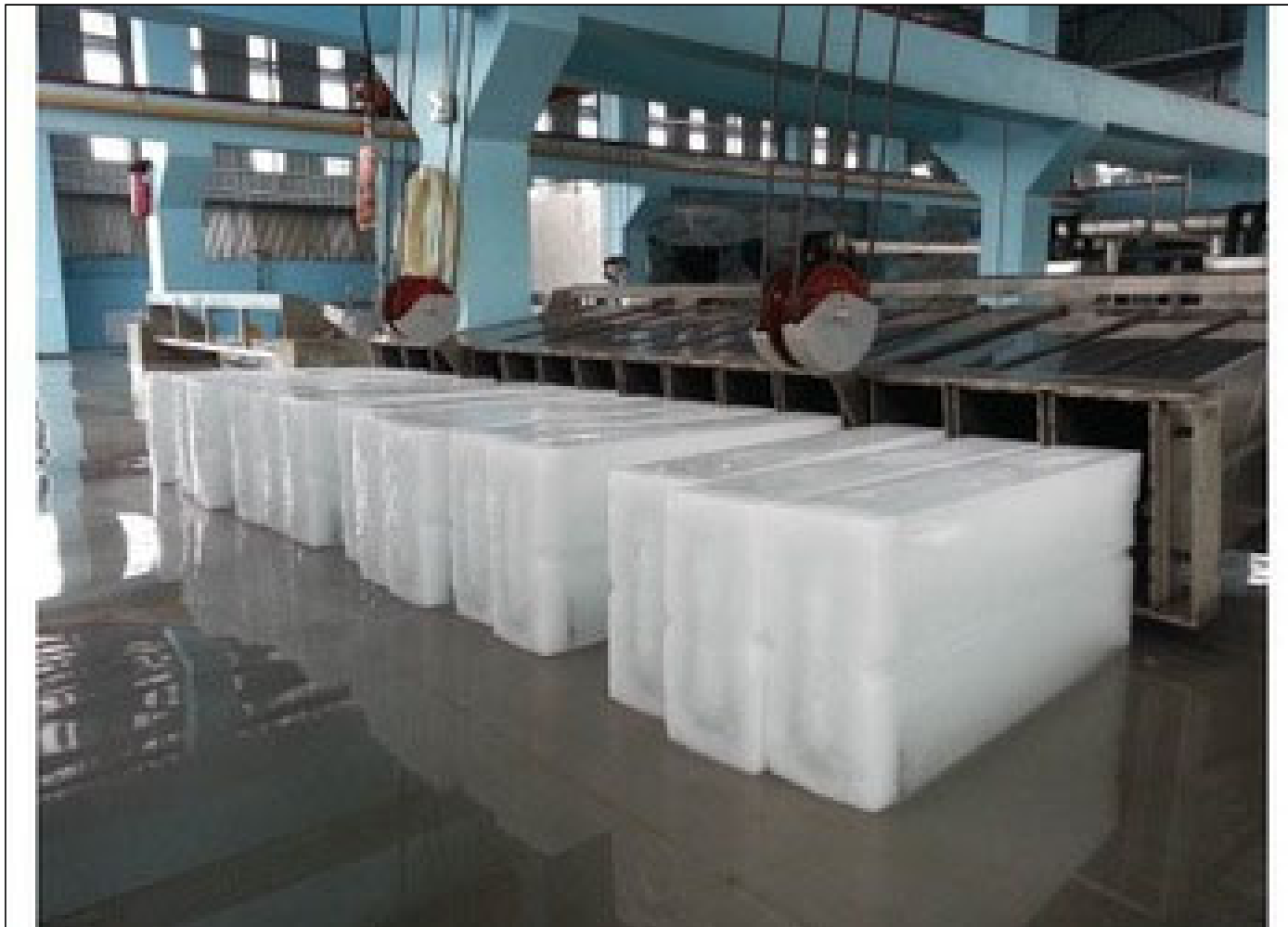
**Kajon's
Asian
Cuisine**

Seating
for 70

**JGS
Movie
Plaza**

3 Screens

Ice Manufacturing



Air Traffic Control Tower



Radio City Music Hall



Bowling Alley



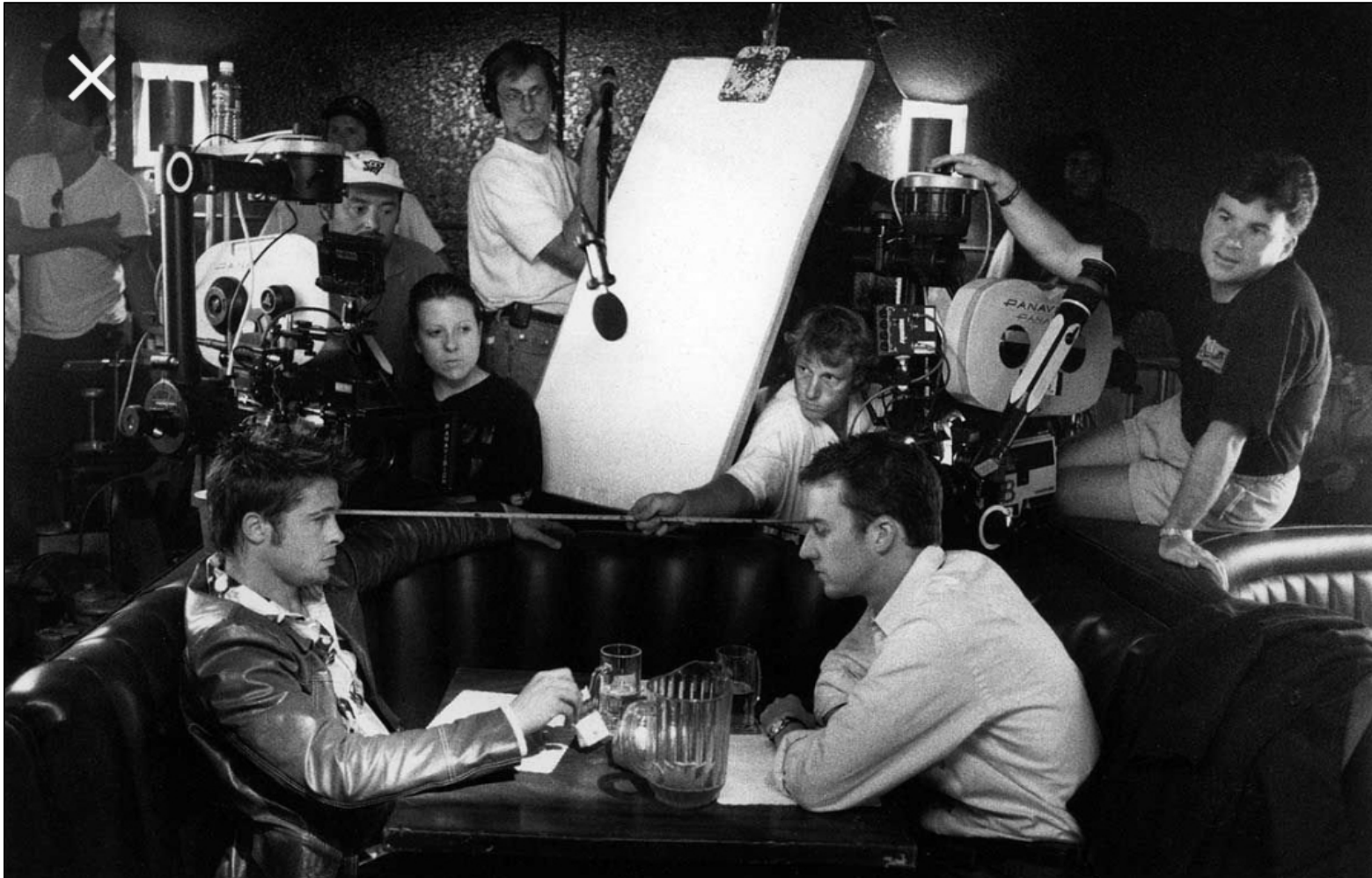
Xcel Energy Center



Post Office



Motion Picture Filming



Semiconductor



Water Treatment Plant

Exceeds MAQ
of 810 cu ft for
toxic product



Senior Housing

3-story
independent living
apartments,
assisted living,
dementia units



Nursing Home



Looks like a Duplex?



Looks like?



Minneapolis Children's



Child Care Center



Group?



?



Group U?



Quick Reference Guide to Care Facilities

- Developed by CCLD, MDH and DHS
- [2020-Quick-Reference-Guide.pdf \(mn.gov\)](#)

FIRE CODE INFORMATION SHEETS

General information

The majority of the information sheets, policies and interpretations have not been updated to the 2020 Minnesota State Fire Code. The process to update will take some time to complete. When an information sheet, policy or interpretation has been updated, it will be noted with *2020 MSFC.

In addition to the information sheets below, this [quick reference guide](#) is for statues, rules and code information regarding care facilities in Minnesota.

If you have questions about an existing sheet, you can [email the Fire Code Team](#).

Changes Coming to Assisted Living

- New law in 2019
- Statute 144G has been amended
- Effective August 1, 2021
 - **MDH will license assisted living facilities**
 - **Housing with services establishments will go away**
- SFMD has been working with MDH on amendments for
 - **Fire drills and evacuations and training**
 - **Smoke alarm requirements for sleeping units and dwelling units**
 - **Fire extinguishers for Group R-3**



Questions

Website: <https://sfm.dps.mn.gov>



Thank you

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