ISSUE: Under what guidelines shall allowances for changes of use or character be permitted as allowed by IBC Sections 104.10 (Modifications), 104.11 (Alternate materials, design and methods of construction and equipment), and International Existing Building Code?

ANALYSIS: International Existing Building Code, Sec.101.4.7, generally states that all existing structures may continue their existing use and occupancy provided that they are properly maintained in a safe and sanitary condition as required by the codes under which they were built. However, any new additions, alterations, or repairs must comply with current codes as adopted. All such new work shall also not cause the existing structure or elements thereof, to become unsafe or create hazardous conditions.

Change of Occupancy specifically states that buildings undergoing a change character of occupancies or use shall be made to comply with all the requirements associated with the new character of occupancy or use based under the current adopted codes. This section, however, does allow the building official latitude from requiring compliance with all code requirements if it can be determined that the proposed use is less hazardous, based on life and fire risk, than the existing use. Change of Occupancy also states that “No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such building is made to comply with the requirements of the code for such division or group of occupancy.

Though not complete, the following is a list of common areas of conflict between a single family residential and a professional office occupancies built of Type V-B Construction:

1. **Ratings of exterior walls based on proximity to property lines**
   - Residential 1-hour fire rated when within 5 feet from the property line with no openings less than 3 feet from property line
   - Business 1-hour fire rated less than 20 feet with no openings less than 5 feet from property lines and all openings between 5 feet and 10 feet from property line protected with a ¾ hour fire assembly.

2. **Landings at doors**
   - Residential 36-inch landings required each side of doors; exterior landing may be up to 7.75 inches lower than floor level.
   - Business 44-inch landings required at each side of doors must be at same elevation.

3. **Stair rise and run**
   - Residential Maximum 7.75-inch riser and minimum 10 inch tread.
Business Maximum 7 inch and minimum 11 inch tread (except private stairs with an occupant load of less than 10)

4. **Handrail**
   - Residential Handrail required when 4 or more risers occur and only on one side
   - Business Handrail required when 2 or more risers occur. Handrail extensions are also required. Handrails may also be required on both sides of stairway based on different conditions.

5. **Guard rail requirements**
   - Residential 36-inch minimum height.
   - Business 42-inch minimum height.

6. **Occupant load factors**
   - Residential 200 Sq. ft./Occupant
   - Business 100 Sq. ft./Occupant

7. **Number Exits required (general)**
   - Residential 2 exits required when occupant load of 10 or more (2000 square feet)
   - Business 2 exits required when occupant load of 49 (4900) on the ground floor and 30 or more above grade floor level (2900 square feet)

8. **Basement Exits required**
   - Residential Egress Window(s) and (if occupied) one Egress window in each bedroom (may not always be installed based on when built)
   - Business Occupied basements require 2 separate exits (separated by 1/2 of the diagonal dimension; these are not egress windows)

9. **2nd Story Exit requirements**
   - Residential No special requirements except for Egress windows from bedrooms
   - Business 2 exits required unless occupant load is more than 10

10. **Increased structural floor live load design requirements**
    - Residential Uniform Load of 40-lbs./Sq. ft.; Concentrated Load of 0 lbs.
    - Business Uniform Load of 50 lbs./Sq. ft.; Concentrated Load of 2000 lbs.

11. **Accessibility requirements**
    - Residential None
    - Business Accessible entry route (including doors, ramps, stairs, handrail)
      - Accessible parking
      - Accessible facilities (including toilet)

12. **Plumbing fixture requirements**
    - Residential Complete facilities for sanitation, bathing, and cooking.
    - Business Toilet facilities required one for each sex when employ more than four employees, must comply with accessibility requirements.
      (Note: New or additional fixtures may overload and require upgrading of existing elements of overall plumbing system. Additional requirements may also apply for washable non-absorbent surfaces. Existing systems may not be code compliant in terms of cross connections, venting, drainage and other minimum sanitation and health safety concerns.)

13. **Mechanical Systems**
    - Residential Permits return-air and outside-air ducts and plenums to be of combustible construction and allows substantially lighter gauge metals ducts as low as 30 gage
Business does not allow combustible ducts and requires a minimum 26 gage (Note: Existing systems may not be code compliant in terms of clearances to combustibles, combustion air, venting, or per other fire and life safety concerns)

14. **Electrical System**
   Residential ___ 3 watts/Sq. ft.
   Business ___ 3.5 watts/Sq. ft. (plus additional 1 watt/Sq. ft for general purpose receptacles)
   (Note: Specific load requirements plus the condition and age of the existing system may require upgrading of service, circuits, and grounding, etc.)

It can be argued that existing small single family structures are more hazardous than equivalently sized professional offices in terms of fire load and stored hazardous materials. Due to the absence of sleeping rooms, there is an assumed decreased life safety risk associated with professional offices (persons at rest are not as aware, alert, or as responsive to emergency situations and are at increased risk at these times). Also, because businesses are subject periodic Fire Department inspections, required fire safety elements tend to be better monitored and maintained.

However, due to the lack of familiarity with the building by customers or clients and the increased occupant loads, there is an increased level of hazard associated with the exiting requirements of offices. There is also a greater risk of fire spread, both within and to adjacent structures, due to the increased amount of time that offices are unoccupied and unobserved. Also, due to the increase occupant load and potential heavy office equipment or supplies associated with offices, there are increased minimum structural design requirement for floor live loads (50 lbs. vs. 40 lbs.) and concentrated loads (2000 lbs. vs. 0 lbs.) applied to offices.

The existing plumbing, mechanical, and electrical may or may not be adequate depending on their condition and the overall service needs associated with the new occupancy.

**POLICY & PROCEDURE:** This policy is adopted to provide minimum guidelines to be applied when converting a legally existing singly family home to those B-Occupancies identified as professional type offices. This policy permits such conversions without requiring the structure to be in full compliance with all of the requirements of the building code. This provision is permitted as allowed by Sections 104.10 (Modifications), 104.11 (Alternate materials, design and methods of construction and equipment) and 3408 (Change of Occupancy; Exception)

This provision is authorized provided the following conditions exist or established and are maintained for the duration of this change of use, unless otherwise modified and recorded by the building division:

a. Building permits and a new Certificate of Occupancy are required for all changes of occupancy or changes character of use.

b. The structure shall be evaluated to verify structural compliance with the required 50 pounds per square foot dead loads and 2000 pounds concentrated loads.

c. The building has a maximum of two stories.
d. The maximum floor area of the first (main) floor shall be 2700 square feet unless two conforming/qualifying exits are provided.

e. The maximum area of any floor area above or below the first story is 900 square feet.

f. The first floor shall be provided with means of egress system complying with Chapter 10 of the Building Code.

g. All conference rooms and customer service areas shall be located on first story (Ground level).

h. All assembly areas with an occupant load of 10 or more shall have at least two exits.

i. All offices above and below the first floor shall be used as private offices only with no customer access.

j. All basement offices shall have a legal egress window and window well as specified in section 1029 or the basement shall be provided with two separate exits as required by Section 1021 and Table 1021.1.

k. All public stairways with occupant load of 10 or more shall comply with the rise and run requirements of Section 1009.4.

l. A local fire alarm system approved by the Fire Department; or Visual and audible smoke detectors shall be provided and centrally located on each level. Installed smoke detectors shall be interlocked to function in unison.

m. When the exterior walls do not comply with the fire rating requirements due to proximity to property line, the entire structure shall be provided with a monitored fire alarm system, as approved by the Fire Department.

n. The first floor shall be provided with the accessibility requirements of Chapter 11, including toilet facilities when required.

o. Any new plumbing fixtures shall not cause or create an existing system to become non-complying. Any inadequately maintained systems shall be properly repaired. Any identifiable sanitation and health safety issues shall be corrected or otherwise abated.

p. Any mechanical systems shall be properly maintained and determined to be functioning in a safe and proper manner. Any identifiable fire or life safety issues shall be corrected or otherwise abated.

q. Any electrical systems shall be verified as meeting the minimum load requirements needed to serve the intended use and any identifiable fire or life safety issues shall be abated or otherwise corrected. If not existing, an exterior fusible disconnect must be installed. All stairways, halls, and corridors shall be provided with adequate artificial lighting.

It is understood that all buildings are unique and this policy cannot possibly identify or anticipate all potential conditions. Individual structures may require additional modifications or conditions based on the specific life, fire, and structural safety issues associated with the desired change of use.

This policy is not intended to address the conversion of single family homes to retail, dining, educational, or other unidentified uses. Such uses are required to be reviewed and evaluated on an individual basis.

Different modifications or alternatives, such as a fire suppression system, fire escapes,
emergency exit lighting, etc., may be applied for and reviewed in lieu of those identified here. These will be considered and evaluated for approval by the Building Division and Fire Department on an individual basis.

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