

Orange County Fire Authority

Community Risk Reduction

1 Fire Authority Road, Building A, Irvine, CA. 92602 www.ocfa.org 714-573-6100

Architectural Review



Guideline E-01

Serving the Cities of Aliso Viejo • Buena Park • Cypress • Dana Point • Garden Grove • Irvine • Laguna Hills • Laguna Niguel • Laguna Woods
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Architectural Review

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1. PURPOSE

This document is intended as a general guideline pertaining to the submittal and review of architectural plans by the Orange County Fire Authority (OCFA). This document provides guidance related to submittal requirements, general information required on the plans, standard architectural notes, and clarifying information regarding emergency egress, emergency lighting, exit signs, and exit access and exit doorways. Appendices provide guidance related to specific occupancies and hazards.

 The items identified in this guideline are not intended to cover all of the various code requirements that apply to architectural plans reviewed by the OCFA. Reference to the relevant adopted codes and standards and interpretive manuals and other guidance documents pertaining to building design and construction will still be required.

2. SCOPE

2.1 OCFA REVIEW – The OCFA reviews architectural plans for those structures that, because of the nature of their occupants, use, height, or processes and materials contained within, have an inherently higher potential to endanger life or the community due to the risk of fire, panic, or other emergency conditions. The OCFA reviews architectural plans to ensure that these structures and the people inside them are sufficiently protected by the proper type of construction and fire-resistive assemblies, fire and life-safety systems, and egress systems as required by the relevant codes and standards.

These guidelines apply to all structures built, modified, or moved into the area served by the OCFA over which the OCFA has jurisdictional authority granted by the State Fire Marshal (SFM) or other agencies. In general, the OCFA performs architectural reviews of A, C, E, H, I, L, R-1, R-2, and R-4 occupancies, in addition to certain home-based care facilities classified as R-3 or R-3.1 occupancies. The OCFA also reviews architectural plans for all new high-rise structures regardless of occupancy, with the exception of hospitals – see OCFA Guideline H-01 for information related to high-rise buildings. At the request of partner cities and other agencies, the OCFA may also perform architectural reviews of other occupancy types for compliance with life safety requirements detailed in the California Building Code (CBC), California Fire Code (CFC), and other adopted standards and regulations.

Additionally, the OCFA reviews architectural plans for the installation of electronic locks where the devices potentially affect travel *in the direction of exiting* from a building, tenant space or where such devices are required to be interconnected with sprinkler and alarm or smoke detection systems. Installation of card readers that only prevent authorized access *into* a building or space *against* the direction of exit travel does not by itself trigger submittal of architectural plans to the OCFA. See page 17 for more information.

2.1.1 Review of HCD-approved modulars containing SFM-regulated occupancies – Modular buildings do not require architectural, sprinkler, or alarm review by the OCFA *if the building and its fire-protection systems have been approved for the intended use by the Department of Housing and Community Development*

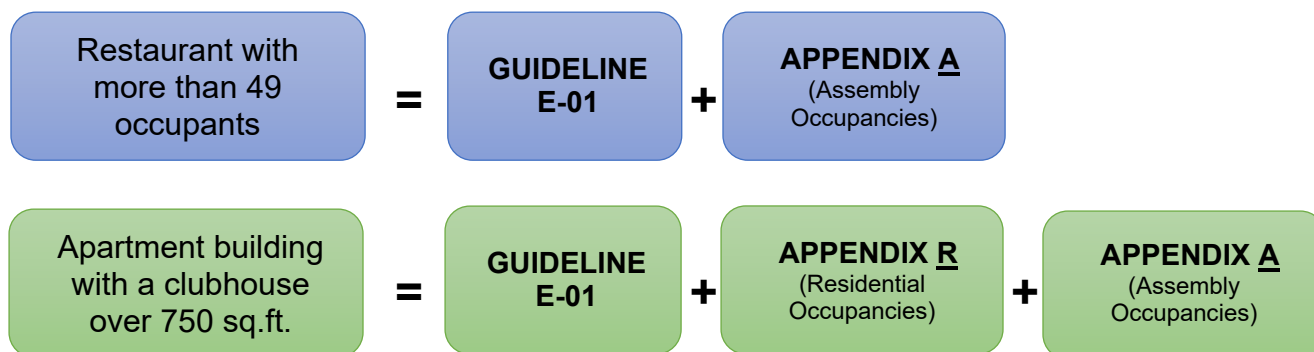
(HCD). However, as many of these structures are intended for use as assembly or daycare facilities, which requires permitting or clearance by OCFA on behalf of the State Department of Social Services prior to occupancy, the OCFA encourages applicants to bring plans for State-approved modular units in for a brief evaluation to identify any potential issues that may affect the desired use, and to discuss inspection requirements necessary for final project sign-off. Though architectural, sprinkler, and/or alarm plans may not be required for these pre-approved modular structures, an approved fire master plan (site plan) is required before any structure, including State-approved modular units, may be brought onto a project site. Other reviews to address requirement outside of the building, such as for underground fire water supply lines or fuel modification, may also be required.

2.1.2 Review of State- and Federally-Owned or Occupied Buildings – Projects at public school campuses, State parks, and buildings or tenant spaces that are owned or occupied by a State or Federal government agency do not normally require OCFA architectural review. However, many of these agencies will work closely with the local jurisdiction and may request an advisory review from the OCFA or may defer a portion of the review to the local jurisdiction. To avoid any unnecessary submittals and delays in project approval, prior to submitting plans to the OCFA for review of these projects, please confer with your contact at the appropriate State or Federal agency that oversees design and construction. If the agency directs you to submit plans to the OCFA, please include a cover letter with the submittal indicating the scope of the review they are requesting and whether they would like the OCFA to perform the related inspections prior to occupancy. For public school projects, OCFA review is generally limited to emergency access and hydrants and not architectural plans; please refer to OCFA Guideline B-02 for more information.

2.1.3 Review of Projects in Mobile Home Parks – Projects in mobile home parks may be under either the authority of the California Department of Housing and Community Development (HCD) or the local city/county Building Department and OCFA; please consult the list of mobile home parks on the HCD website to determine jurisdiction. Projects in mobile home parks under local jurisdiction will be treated the same as any commercial or residential project in terms of plan submittal processing and requirements; OCFA review generally consists of fire department access, hydrant location and water supply piping serving hydrants, clubhouses classified as assembly occupancies, and voluntary sprinkler installations. Projects at mobile home parks under the authority of the Department of HCD do not normally require OCFA review, however, HCD may work closely with the local jurisdictions and may request an advisory review. To avoid any unnecessary submittals and delays in project approval, prior to submitting plans for review of projects in mobile home parks under the jurisdiction of HCD, please confer with HCD on the degree of local involvement, if any, necessary for your project.

3. HOW TO USE THIS GUIDELINE

This guideline consists of two main parts: Guideline E-01 and a series of lettered appendices: Appendix A, B, E, H, I, L, and R. The first part, Guideline E-01, is intended to provide instructions on how to prepare and submit a generic architectural plan, including discussion of some general code requirements that are applicable to all occupancy classifications. The second part, the appendices to Guideline E-01, contain plan content and technical information specific to individual occupancy classifications. **To prepare an architectural plan, provide the information and comply with the requirements in both E-01 and all pertinent appendices.** For example...



4. SUBMITTAL PROCESS

4.1 SEQUENCING – See OCFA Guideline A-02 for a general overview of the plan submittal process.

4.1.1 Prerequisite approvals – For typical projects consisting of a new structure or an addition/modification to the footprint of an existing structure, a fire master plan shall be reviewed and approved by the OCFA prior to submittal of the architectural plan. For projects within the footprint of existing structures, the architectural plan may be submitted after completion of the city's conditional use permit or design development review process.

4.1.2 Concurrent reviews – As the contents, equipment, or processes taking place within a structure may affect construction or egress requirements, any review of hazardous materials, equipment, or processes shall take place either before or concurrently with the architectural review. Common hazards/equipment include:

- Medical or industrial gas piping systems (excluding small compressed air systems like you would find at a repair garage)
- Above or underground tanks containing hazardous materials, including fuel tanks for generators (may also require disclosure or permits from County HCA—please visit occupainfo.com for more information)
- Chemical use, storage, mixing, dispensing, or processing (may also require disclosure with County HCA; please visit occupainfo.com for more information)

- High-piled storage
- Battery systems exceeding CFC thresholds
- Dipping operations
- Spray booths or other spraying/finishing operations using flammable materials
- Dry-cleaning
- Drying/baking ovens, dehydrators, or autoclaves (industrial and large commercial production devices only, not typical restaurant or residential appliances)
- Refrigeration systems
- Dust producing operations (e.g., woodworking; grinding; sanding; finishing; baking/food production at a commercial-scale, not in restaurants; etc.)
- Hot work (welding, soldering, brazing, jewelry making/repair, etc.)
- Smoke control systems (rational analysis report)

4.1.3 Deferred submittals – The following types of plans may be submitted after the architectural plan is approved (i.e., “deferred submittals”). Portions of the project that are deferred shall be subject to the codes, standards, and other applicable requirements in force on the date that the deferred plan is submitted to OCFA.

- Medical or industrial gas piping systems, provided that the construction requirements of the gas storage room are detailed on the architectural plan
- Above or underground tanks containing hazardous materials located outside of the structure and separated per CFC and/or NFPA 30A (may also require disclosure with County HCA - please visit occupainfo.com for more information)
- Underground piping systems supplying water to sprinklers and on-site hydrants
- Fire pumps, provided that the construction requirements of the pump room are detailed on the architectural plan
- Sprinkler and standpipe systems
- Special extinguishing systems (FM-200, CO₂, Novec, etc.)
- Hood and duct extinguishing systems
- Alarm and sprinkler monitoring systems
- Smoke control systems (design and testing report)

5. PLAN REQUIREMENTS

5.1 INFORMATION REQUIRED – See Attachment 1 for a description of the specific type of information required. Depending on the complexity of the project, additional information such as building elevation, section, or detail drawings and equipment and furniture layouts may also be required to provide a comprehensive view of the project. If additional information is required, it will be requested during the review process. To simplify the approval process and eliminate unnecessary paper waste and reprographic time and expense, much of the required information identified in this guideline may be combined onto one or two fire protection and/or code analysis sheets.

5.1.1 OCFA Coversheet – Include a completed OCFA Architectural Coversheet with your plan. The coversheet can be found on the Planning & Development



webpage under Resources→Standard OCFA Plan Notes. Where a coversheet is also required by the building department, the OCFA Coversheet can be placed after it in the plan.

6. GENERAL CODE REQUIREMENTS

6.1 OCCUPANCY CLASSIFICATION - The initial step in applying the code is to correctly classify all uses and occupancies on the plan. The classification of a structure or portion thereof is based on use and/or type of occupants. The occupancy groups are:

- A** Assembly of 50+ people for social, civic, entertainment, instruction, recreational or religious functions, eating/drinking, or awaiting transportation such as in a restaurant, nightclub, gym, airport or place of worship
- B** General business, service and administrative functions such as offices and banks
- C** Organized camps
- E** Education or daycare for children
- F** Factory and industrial operations such as manufacturing, finishing, packaging, assembling/disassembling, repair or processing
- H** Hazardous materials storage/use/processing exceeding maximum allowable quantities
- I** Institutional use such as hospitals, health care, daycare of adults or infants, or jails
- L** Laboratories for research and development or education not otherwise classified as a B or H occupancy
- M** Mercantile and retail spaces
- R** Residential uses such as hotels, apartments, condos, dorms, eldercare facilities and single-family homes and duplexes
- S** Storage and warehousing; vehicle repair; parking structures or private garages over 3,000 square feet
- U** Utility structures such as barns, silos, greenhouses, and sheds; private garages and carports up to 3,000 square feet.

Occupancy groups may be further subdivided into divisions depending upon the specific type of structure, use, or occupant characteristics. Where a structure or occupied roof is proposed for a purpose not specifically listed in the code, the structure shall be classified in the group it most nearly resembles based on the fire safety and relative hazard. The importance of proper occupancy classification cannot be overstated as it is the basis of many code requirements such as allowable building size, construction type, number of stories, egress, and building fire safety functions including sprinkler and alarm requirements.

6.1.1 High-rise buildings – High-rise buildings have some additional specific design requirements that apply regardless of the occupancy classification of the building or spaces within. Please see OCFA Guideline H-01 and CBC 403.

6.2 OCCUPANCY SEPARATION – Where identified by CBC Table 508.4, occupancies of different types shall be separated by fire barriers and rated floor/ceiling assemblies

unless the occupancies either qualify as accessory spaces or are treated as non-separated.

6.2.1 Non-separated occupancies – If the non-separated approach will be used, clearly identify the areas or occupancies it applies to and provide the following note on the plan: *“For non-separated spaces, sprinkler, alarm, and other life-safety system requirements of CBC Chapter 9 shall be applied throughout the non-separated areas as required for the most stringent of the non-separated occupancies present.”* Where the allowable area is significantly different for the various non-separated occupancies, provide an allowable area calculation (see section 6.3.2) based on the lowest tabular value from Table 506.2 for the occupancies that are non-separated.

6.2.2 Accessory occupancies – The CBC allows spaces that would normally be required to be separated from other occupancies by fire resistive walls and ceiling/floor assemblies to omit these rated separations provided that they qualify as accessory occupancies. A space may qualify as an accessory occupancy if it meets all of the following criteria:

- Accessory space shall not be more than 10% of the area of any floor.
- The aggregate area of all accessory spaces in the building shall not exceed the base allowable area for non-sprinklered buildings listed in Table 506.2 without increases due to the presence of sprinklers or frontage.
- The space is ancillary to, directly associated with, functionally interdependent upon, and under the direct control of the main use and would not otherwise take place independently.
- The room is used for purposes or by persons who are expected to be associated with the main use of the building.
- The space is not used for a purpose that could reasonably be expected to take place independent of the main use. For example, a daycare located in an office building that is used by people other than employees would not be accessory.
- The space is occupied outside of the regularly scheduled hours of use for the rest of the facility.

For example, the administrative office at a school or a cafeteria serving the employees of a factory could be accessory to the primary occupancy, but a coffee-shop leasing space in a strip mall and serving the general public would not be accessory to the other B or M occupancy spaces in the building. A meeting or activity room at city hall that is used for civic functions and city sponsored or supervised events would be accessory to the offices but that same space that is available to the general public in the evenings or weekends for private functions would not. Similarly, a daycare operating at a place of religious worship that cares for children whose guardians are not concurrently attending religious services or functions would not be considered accessory.

For purposes of calculating allowable area only, accessory occupancies are treated as the main occupancy they are accessory to; for all other purposes, such as sprinkler and alarm requirements, egress, maximum stories, etc., they retain their original


occupancy classification. If the accessory occupancy provision will be used, note which space(s) it applies to and provide a calculation demonstrating that the accessory spaces occupy less than 10% of the floor area of the individual stories they are located on.

6.2.3 Incidental uses, CBC 509 – The CBC recognizes that some spaces in a building present an inherently elevated hazard and requires that they be separated from other spaces with rated construction, protected by fire sprinklers, or both. Incidental uses shall be protected as required in Table 509.1 *even if they would otherwise qualify as an unseparated accessory space*. Where the option is available to provide sprinkler protection in the place of rated construction, construction shall still be capable of resisting the passage of smoke. Where applicable, call this out on the plan and note automatic closers and smoke gaskets on the door schedule.

Unlike accessory uses, incidental use spaces assume the occupancy of the part of the building they are located in and are not given an occupancy classification based on the use they most closely match from in CBC Chapter 3. For example, an incidental use laundry room in a hotel would be classified as R-1 and not F-1.

The aggregate area of incidental use spaces shall not be more than 10% of the area of the story they are located in. Where they do exceed this limit, they shall be treated as separated occupancies and be provided with the protection and/or separation as required by CBC Table 509.1 or 508.4, whichever is greater.

6.3 BUILDING HEIGHT, CONSTRUCTION, & ALLOWABLE AREA

 **6.3.1 Sprinkler upgrades** – The CBC allows a building's area, height, and maximum stories above grade permitted for each occupancy to be increased by the installation of an approved fire sprinkler system. If these provisions will be applied to a project, the sprinkler system shall comply with NFPA 13. With the exception of R-2 occupancies of Type V-A construction, sprinklers cannot be used for both a story/height increase and an area increase in buildings or portions of buildings classified as an A, E, H, I, L, R occupancy or high-rise building. See footnotes 'n' and 'o' in CBC Table 504.4 and "j" and "k" in Table 506.2 for limitations on using sprinklers for height/story and area increases.

6.3.2 Allowable area – The maximum size that a building is allowed to be is primarily dependent upon the type of construction used, the occupancies housed in the building, and whether the building is sprinklered. To demonstrate compliance with allowable area restrictions, an allowable area calculation done in accordance with CBC Equations 5-1 through 5-3 is required to be provided on the plans for any new structure or change of occupancy or use which meets any of the following criteria:

- 1) Any building containing an H occupancy
- 2) Any non-sprinklered building over 6,000 square feet containing a State Fire Marshal regulated occupancy
- 3) Any non-sprinklered building over 9,000 square feet

- 4) Any building over 18,000 square feet and more than one story
- 5) Any building using sprinklers for a story increase

For existing structures, an allowable area calculation is required when there is a change in occupancy to a more restrictive classification (e.g., from B or M to an A) *and* the building meets any of the criteria in the list above. See the figures on pages 12 and 13 for an example of how to calculate allowable area.

6.3.3 Frontage – a building with at least 25% of its perimeter located at least 20 feet away from property lines or other structures on the same lot may qualify for an increase in allowable area. The open space shall be:

- Located on the same property as the building or in a permanently dedicated public open space such as a street or park, *and*
- Accessible from an on-site fire lane or public road serving as a fire lane, *and*
- Available for and facilitate firefighting and rescue operations.

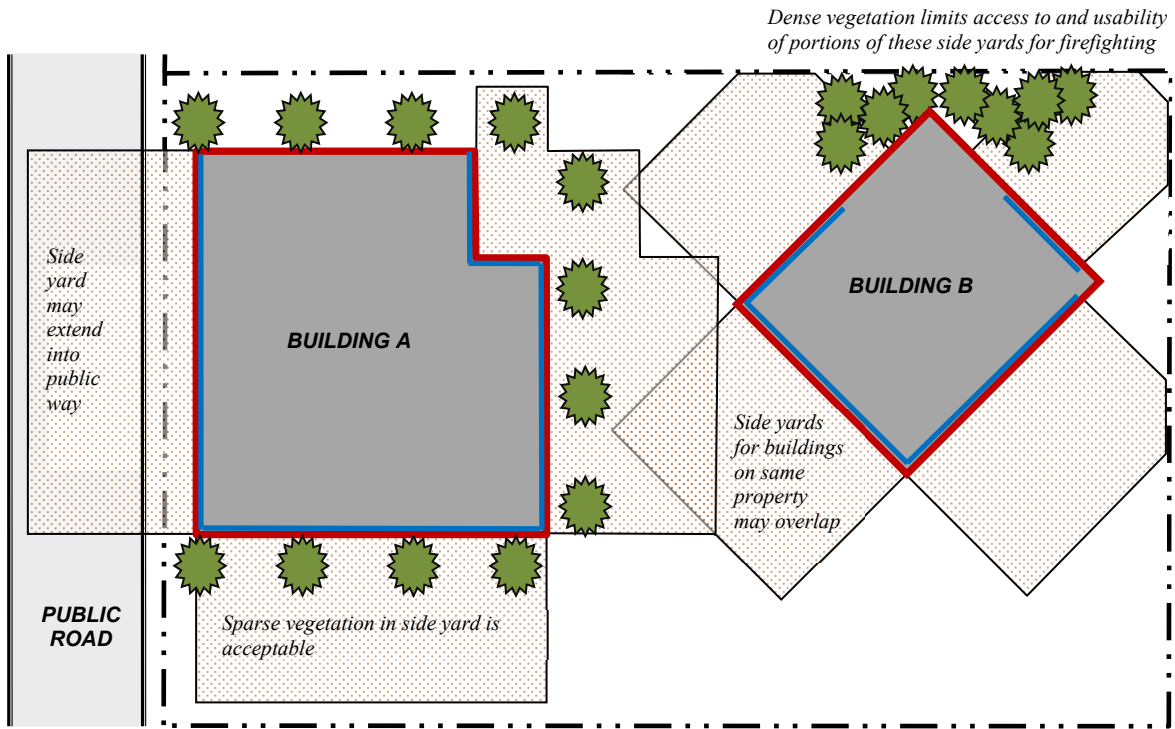
Examples of spaces that do not qualify for frontage increases include:

- Open land on adjacent private property, unless an open space easement is recorded against the adjacent property
- Railroad right-of-way
- Freeways and other high-speed, high-volume streets
- Open space that is separated from the building and made inaccessible by walls, fences, vegetation, topography, bodies of water, or other obstructions
- Open space that is not immediately and readily accessible from a fire lane or public road (i.e., beyond 150-foot hose pull distance from the fire lane)
- Areas where vegetation, terrain, architectural elements, and similar obstructions impede firefighting equipment or operations
- Outdoor equipment or materiel storage or staging areas
- Parking areas for trucks, busses, and other large vehicles

Frontage increases shall be calculated in accordance with CBC 506.3. The maximum frontage increase for most buildings with at least 30 feet of open space along the entire perimeter is 75% of the base allowable area for a non-sprinklered building.

See the following figures for an example of frontage and allowable area determination:

OPEN SPACE AND FRONTAGE DIAGRAM



Represents a side yard measuring between 20 and 30 feet between building and property line



Represents building perimeter



Represents portion of building perimeter that contributed to a frontage increase

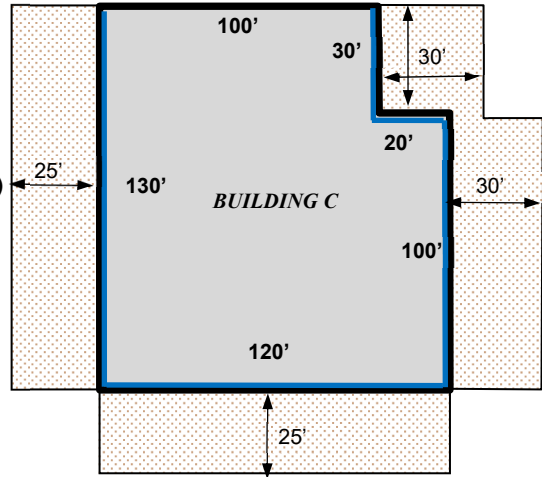
CALCULATING FRONTAGE AND ALLOWABLE AREA


FORMULAS:


Allowable Area—Single story & occupancy: $A_a = A_t + (NS \times I_f)$
 Allowable Area—Multistory, Single Occupancy*: $A_a = [A_t + (NS \times I_f)] \times S_a$

Where...

A_a is the allowable area
 A_t is the area from CBC Table 506.2 (NS, S1, S13R, or SM, as applicable)
 NS is the area from Table 506.2 for a non-sprinklered building (regardless of whether the building is actually sprinklered)
 I_f is the frontage increase factor (between 0 and 0.75)
 P is the percentage of the perimeter with a side yard at least 20' wide
 W is the width of the smallest side yard between 20' and 30'
 S_a is the multistory increase factor (2 for buildings containing SFM-regulated occupancies; 3 for other buildings)



 Represents a side yard measuring between 20 and 30 feet between building and property line

 Represents portion of building perimeter that contributes to a frontage increase

Assume the following for Building C:

- Two story
- Building is 15,000 sq.ft. per floor
- Type V-B construction
- R-2 occupancy
- Sprinklered, NFPA 13 system

$$A_a = A_t + (NS \times I_f)$$

Where...

$A_t = 21,000$ sq.ft. (CBC Table 506.2, no story increase = SM)
 $NS = 7,000$ sq.ft. (CBC Table 506.2)
 $P = (130+120+100+20+30)/500 = 80\%$ (blue line)
 $W = 25$
 $I_f = 80\%$ at 25' = 0.5 (interpolated value from CBC Table 506.3.3)

Therefore, the maximum allowable area for a single story is...

$$A_a = 21,000 + (7,000 \times 0.5) = 24,500 \text{ sq.ft.}$$

And the total allowable area for the entire building is...

$$A_a = [A_t + (NS \times I_f)] \times S_a$$

$$A_a = [24,500] \times 2$$

$$A_a = 49,000 \text{ sq.ft.}$$

BUILDING COMPLIES AS THE AREA OF ANY INDIVIDUAL STORY (15,000 SQ.FT.) DOES NOT EXCEED THE MAXIMUM ALLOWED FOR A SINGLE FLOOR (24,500 SQ.FT.) AND THE TOTAL BUILDING AREA (30,000 SQ.FT.) DOES NOT EXCEED THE MAXIMUM ALLOWED FOR A MULTISTORY BUILDING (49,000 SQ.FT.).

*For mixed occupancy buildings, a "sum of the ratios" calculation is required; see CBC 506.2.2

6.4 OCCUPANT LOAD

6.4.1 Occupant load factors – Refer to CBC Table 1004.5 and the occupancy-based appendices to this guideline for the appropriate occupant load factor (i.e., square feet per person) for each space. If a space has more than one use, or more than one occupant load factor is appropriate, select the factor that results in the greatest number of occupants.

The occupant load determined in accordance with CBC 1004 is the “design” occupant load of the space and anticipates a worst-case situation from a life-safety perspective for code application. It is the figure that is used by the OCFA as the basis for:

- The number of people that the egress system must be designed to accommodate
- Determination of sprinkler and alarm requirements
- Determination of occupancy classification, where it is based on occupant load
- Posting of maximum occupant load in assemblies and classrooms
- Fire department documentation and operational permits, if any

The design occupant load is not necessarily dependent upon and, in some cases, may vary significantly from:

- Occupant load based on limitations in the planning department’s conditional use permit
- Occupant load allowed due to available parking spaces
- Actual or anticipated occupant load based on business model projections
- Occupant load used to determine number of plumbing fixtures
- Occupant load requested for daycare licensing

6.4.2 Concurrent occupancy – For purposes of designing the egress system, all spaces except restrooms and defined circulation spaces will be assumed to be occupied concurrently. Where circulation spaces can also function as waiting or other activity areas, such as the lobby and main hallways in movie theaters and pre-function spaces in hotels and event centers, they shall be assumed to be occupied concurrently. Where lobbies will be occupied by the same people as the primary assembly space, as is common in performing arts facilities and places of worship, the assumption of concurrent occupancy may not be appropriate – where this is the case, note on the plan that such spaces are not occupied concurrently.

6.5 GENERAL EGRESS

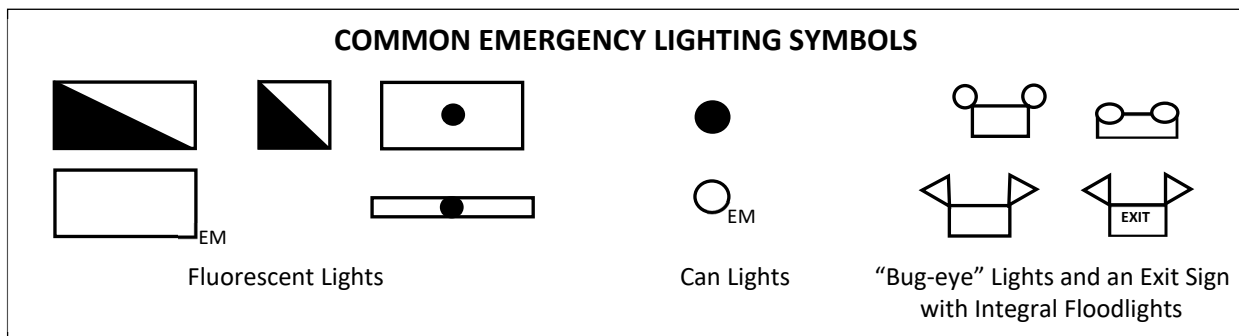
6.5.1 Emergency lighting, CBC 1008.3 – Where two or more paths of egress travel are required within a room or from a building, emergency lighting shall be provided in the following locations:

- Along main circulation paths or aisles in rooms requiring two or more exits
- Interior stairs and ramps
- Corridors and exit enclosures (passageways, vestibules, open and enclosed stairwells, etc.)

- Exterior portions of the egress system above or below grade level, such as outdoor exit stairs and exit balconies
- Lobbies and vestibules serving exit enclosures as described in CBC 1028.2
- Exterior landings outside of exit doors

Required emergency lighting shall be continuous along the entire length of the egress path up to and including the exterior landing outside the building. In instances where the means of egress beyond the landing serving the exterior exit doors of the building is restricted by such elements as an exit court, fences, topography, vegetation, or the building itself, the means of egress shall be illuminated to the public way or point where occupants can freely disperse from the exit discharge path in a manner that facilitates evacuation.

Emergency lighting must be either by standard lighting fixtures on an emergency circuit powered by a UPS system or generator, or by independent emergency lights equipped with integral batteries such as bug-eye fixtures. Emergency lighting must be capable of sustained illumination for 90 minutes at an average intensity of one foot-candle at floor level.



6.5.2 Non-required exit doors, convenience doors – Exit and exit access doors are required in the quantity indicated by CBC Tables 1006.2.1, 1006.3.3, 1006.3.4(1), and 1006.3.4(2). Where additional doors are provided beyond the minimum required and such doors are part of a legitimate egress path for the occupants of a space, they must comply with all requirements for exit doors listed in CBC 1010 including, but not limited to:

- Panic hardware
- Door swing direction
- Door and doorway width and height
- Clear opening width
- Opening force
- Floor level and landings
- Type of lock or latch

6.5.3 Gates, CBC 1010.4 – Gates that serve as a component of the means of egress system must comply with all the requirements for exit doors listed in CBC 1010

including, but not limited to, door swing, width, and panic hardware. Additionally, exit signs may be required.

6.5.4 Electrical rooms, CBC 1010.2.9.2 – Provide panic hardware on doors in electrical rooms with equipment rated 800 amperes or more that contain overcurrent, switching, or control devices where the egress door is less than 25 feet from the equipment working space.

6.6 ELECTRONIC LOCKS – Submittal of architectural plans for installation of electronic locks is required when the locks potentially impact the movement of occupants in the direction of exit travel from the space or building. Please refer to CBC 1010.2.10 through 1010.2.14 for specific requirements. Include the notes and other information described below on the architectural plan and, where applicable, the alarm plan.

6.6.1 Delayed egress doors – Delayed egress locks are prohibited on doors serving any occupants of an A, C, H, or L occupancy. They are allowed in E occupancies only in classrooms serving less than 50 occupants, and on secondary egress doors in courtrooms in occupancies B and A-3. They are also prohibited in buildings that are not protected throughout by both a fire sprinkler system and a smoke detection system.

6.6.1.1 Plan notes – Place the following notes on the architectural and alarm plans:

- The doors shall unlock upon any of the following conditions:
 - activation of the fire sprinkler system;
 - activation of the smoke detection system;
 - operation of an opening switch at an approved location;
 - loss of power to egress control device, smoke detection system, or means of egress illumination;
 - activation of the door latching hardware as described below
- The latch shall be released within 15 seconds of applying force for 3 seconds to the door latching hardware. A delay of 30 seconds is permitted for facilities housing Alzheimer’s or dementia clients. The time delay shall not be field adjustable.
- The unlatching shall not require more than one operation and shall be irreversible.
- Initiation of the unlatching sequence shall activate an audible signal in the vicinity of the door.
- Emergency lighting shall be provided at the door.
- The door shall be relocked by manual means only at the door.
- A sign shall be posted on the door above and within 12 inches of the release device reading “PUSH [PULL] UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.” Sign letters shall be at least 1 inch in height and shall have a stroke of not less than 1/8 inch. A tactile sign shall also be provided that complies with CBC Chapter 11.
- Egress-control devices shall be listed in accordance with UL 294.

6.6.1.2 Alarm system integration – Delayed egress locks are required to be interconnected to the building’s fire alarm/monitoring panel. An alarm plan shall be submitted to the OCFA for review.

6.6.2 Card readers – Generally, card readers, keypads, biometric scanners, and similar devices that are installed to prevent unauthorized *entry into* a building, tenant space, or room do not require submittal of plans to the OCFA on their own. However, if an architectural submittal is otherwise required per the OCFA Plan Submittal Criteria Form and such devices are proposed, include the note in section 6.6.2.1 below on the architectural plan. If an occupant must use one of these devices *to exit a space or building*, the door shall comply with one of the other special locking arrangements described in the CBC.

6.6.2.1 Plan notes – When card readers and similar devices controlling *ingress* are proposed, include the following note on the architectural plan:

- Doors equipped with a card reader shall always be operable in the direction of egress travel without the use of a card or other key, without special knowledge regarding operation of the door or lock, and regardless of the status of power or alarm systems. Installation of wiring or hardware shall not compromise the listing of rated door assemblies.

6.6.2.2 Alarm system integration – Card readers and similar devices controlling *ingress* do not require integration with the alarm or sprinkler monitoring panel. If these devices are interconnected, though, an alarm plan shall be submitted to the OCFA for review; include the note in section 6.6.2.1 above on the alarm plan.

6.6.3 Electrically locked egress doors – These locks may be installed on doors serving any occupancy except Group H.

6.6.3.1 Plan notes – Where electric locks are proposed, include the following notes on the plans:

- The door hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
- The door hardware is capable of being operated with one hand and shall comply with CBC Section 1010.2.1.
- Operation of the door hardware directly interrupts the power to the electric lock and unlocks the door immediately.
- Loss of power to the electric locking system automatically unlocks the door.
- Where panic or fire exit hardware is required by Section 1010.2.9, operation of the panic or fire exit hardware also releases the electric lock.
- The locking system units shall be listed in accordance with UL 294

6.6.3.2 Alarm system integration – Locks installed in accordance with CBC 1010.2.11 do not require integration with the alarm or sprinkler monitoring panel.

If these devices are interconnected, an alarm plan shall be submitted to the OCFA for review; include the notes in section 6.6.3.1 above on the alarm plan.

6.6.4 Sensor-released electrically locked egress doors – These locks may be installed on doors serving any occupancy except E, H, or L.

6.6.4.1 Plan notes – Where electric locks are proposed, include the following notes on the plans:

- The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the electric locking system to unlock.
- The electric locks shall be arranged to unlock by a signal from or loss of power to the sensor.
- Loss of power to the lock or locking system shall automatically unlock the electric locks.
- The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches vertically above the floor and within 5 feet of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the electric lock—independent of other electronics—and the electric lock shall remain unlocked for not less than 30 seconds.
- Activation of the building fire alarm system, where provided, shall automatically unlock the electric lock, and the electric lock shall remain unlocked until the fire alarm system has been reset.
- Activation of the building automatic sprinkler system or fire detection system, where provided, shall automatically unlock the electric lock. The electric lock shall remain unlocked until the fire alarm system has been reset.
- The door locking system units shall be listed in accordance with UL 294.
- Emergency lighting shall be provided on the egress side of the door.

6.6.4.2 Alarm system integration – Where the building has a fire sprinkler, smoke detection, or fire alarm system, these locks shall be interconnected to the monitoring/alarm panel. An alarm plan shall be submitted to the OCFA for review; include the notes in section 6.6.4.1 above on the alarm plan.

6.6.5 Elevator lobby access/egress-control devices – These locks are normally found in mid-rise and high-rise B occupancy structures where the elevator lobby is not connected to a stairwell via a corridor and instead lobby doors open directly into a tenant space. They cannot be used where the elevator lobby is a required part of the mean of egress from a tenant space to an exit or when otherwise not permitted by the fire code official.

6.6.5.1 Plan notes – Include the following notes on the plans:

- Elevator lobby door(s) shall be equipped with a UL and CSFM listed fail-safe locking mechanism.
- Elevator lobby locks shall be installed only in buildings protected throughout by an automatic fire sprinkler system.
- A smoke detector shall be installed on the ceiling on the tenant side of the elevator lobby doors along the center line of the door opening, not less than 1 foot and not more than 5 feet from the door opening.
- The lock device shall be designed to release under any of the following conditions:
 - power failure to the access-control lock device;
 - activation of the fire sprinkler system or a fire alarm system device on that story; the device shall unlock but not unlatch;
 - activation of the emergency release button;
 - a remote master switch in the fire command center, or other approved location if a FCC is not present.
- Regardless of the means of deactivation, re-locking of the lock device shall be by manual means only at the door.
- Elevator lobby shall be provided with direct two-way communication capability between the elevator lobby and a constantly attended location with the capability to remotely unlock the door(s). A sign shall be provided adjacent to the elevator lobby communication system providing simple operating instructions. It shall also state “IN THE EVENT COMMUNICATION CANNOT BE ESTABLISHED, OR IF AN EMERGENCY EXISTS, PUSH THE EMERGENCY ALARM BUTTON.”
- A release button shall be provided at each locked door 48” above the floor. A sign stating “IN CASE OF EMERGENCY, PUSH PALM BUTTON. DOOR WILL UNLOCK AND SECURITY ALARM WILL SOUND” shall be provided adjacent to the emergency alarm button.
- Letters on signs shall be at least 3/4 inch in height, and have a stroke of not less than 1/8 inch and contrast with their background. Tactile signs shall also be provided that comply with CBC Chapter 11.
- Egress-control devices installed on fire rated door assemblies shall be listed for such application.

6.6.5.2 Alarm system integration – The smoke detector shall be tied into the building’s fire alarm/fire sprinkler monitoring system, and activation of system will release all door locking hardware. An alarm plan submittal to OCFA is required. Include the notes in section 6.6.5.1 above on the alarm plan.

6.6 SIGNAGE

6.6.1 Visual exit signs, CBC 1013 – The means of egress from any portion of the building must be readily apparent to the occupants. Where a space has more than one required exit door or doorway, exit signs shall be provided at each door or doorway comprising part of a required egress path. Where only one exit is required but more than one door or doorway is present and multiple paths of travel could

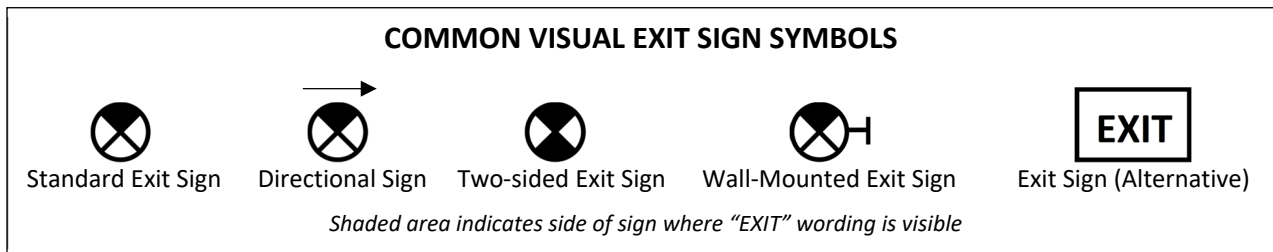
potentially appear to be available, an exit sign shall be used to define, at a minimum, the required exit path.

Exit signs are required elsewhere along the egress path to clearly identify a path of travel from any point in the building to an exterior exit doorway. Care should be taken in locating exit signs so that the egress path is as clear as possible to the first-time user or occupant unfamiliar with the building. Provide exit signs at each change in direction in hallways and corridors and, whenever possible, avoid placing directional exit signs immediately above doors that are not exits. When permitted, signs may be omitted from a building’s main exit when the exit doors are readily identifiable as such and obviously lead to the exterior, such as in the main lobby of a theater or performing arts center where the exit doors are part of a window wall.

Where the exit discharge portion of the egress system is constrained by walls, fences, or topography, exterior exit signs also may be required to direct occupants to the public way or safe dispersal area.

In portions of the building where exit signs are required, at least one sign shall be visible from any point and no point shall be farther than 100 feet to the nearest visible exit sign, or less if the sign is listed for a viewing distance other than 100 feet as is often the case with photo luminescent (“glow-in-the-dark”) or self-luminous (“nuclear”) signs.

Due to line of sight issues that may not be readily apparent on a two-dimensional plan, OCFA inspectors may require additional exit signs to be added or ask that exit signs be moved from the locations indicated on the approved plans to better clarify the exit path.



6.6.1.1 Visual exit signs for stairways – Illuminated overhead exit signs conforming to CBC 1013.1 shall be provided at the door giving access to an exit stairwell. Floor level exit signs shall also be provided at the door as indicated in the applicable appendices to this guideline.

Where a vestibule is provided that contains only a door leading into the vestibule and a door leading from the vestibule to the stairwell, an exit sign is not required within that vestibule. Additional exit signs shall be provided on all doors in the path of egress travel between the stairwell enclosure and the exterior of the building.

Where a stairway continues below the level of exit discharge, a gate shall be provided at the level of exit discharge to prevent unintentional access to floors below. Visual exit signs conforming to CBC 1013 shall be provided to direct occupants to the exit discharge so they do not continue travelling to the floors below.

6.6.2 Tactile exit signs, CBC 1013.4 – Tactile exit signs shall be provided at every doorway where a visual exit sign is provided. Additional signs shall be provided to direct visually-impaired occupants to elements of the egress path that have a visual exit sign but no doorways or vice versa, such as the entrance to an unenclosed stairway or where the omission of a visual exit sign has been permitted at an exterior door that is readily apparent to sighted occupants as the main exit from the building.

A detail of a typical tactile sign shall be provided on the plan that demonstrates compliance with the applicable requirements of CBC Chapter 11B, Division 7. The location and wording of each tactile sign shall be shown on the plan with a keynote or letter symbol (i.e., “E” for EXIT, “ER” for EXIT ROUTE, “ESD” for EXIT STAIR DOWN, etc.) or the generic sign placement requirements from CBC 1013.4 shall be noted clearly on the plan.

Mount tactile signs so that the bottom of the top-most line of raised text is no more than 5 feet above the floor and the bottom of the lowest line of Braille is at least 4 feet above the floor. Mount signs on the latch side of the door on single leaf doors and to the right of double doors. If double doors have only a single active leaf, mount the sign on the inactive leaf. Where this is not possible, mount signs on the nearest available wall.

6.6.3 Emergency evacuation signs – Evacuation signs provide information related to emergency evacuation routes, where to initiate a fire alarm, how to identify a fire alarm, and what to do in the event of an emergency (see Attachment 3).

6.6.3.1 When required – Evacuation signs shall be posted in the following locations as prescribed in Title 19, Div. 1, Ch. 1, Subch. 1, Art. 3, Section 3.09.

- all office buildings two or more stories in height;
- hotels, motels, lodging houses; apartment houses of two or more stories in height that contain three or more dwelling units and where the front door opens into an interior hallway or interior lobby area; and
- hospitals and care facilities

6.6.3.2 Sign location – When required, emergency evacuation signs shall be provided at the following locations:

- all elevator landings
- the entrance to every stairwell on each floor (on the corridor side before entering the stairwell or vestibule)
- immediately inside all public entrances to a public building

- in hotels, motels and lodging houses, an evacuation sign shall also be posted on or immediately adjacent to the interior of each guestroom entrance door.

Identify the location of all evacuation signs for each floor on the plan. If the floor layout is identical for multiple stories, the plan can indicate that information and a separate floor plan for each subsequent identical floor level will not be required.

6.6.4 Stairway identification signs, CBC 1023.9 – These signs provide information critical to firefighter orientation and occupant evacuation in the event of an emergency. When these signs are required, provide a drawing of a sample sign and indicate the location of the signs on the plan – see Attachment 4.

6.6.4.1 When required – Stairway ID signs are required whenever an interior exit enclosure connects more than three stories. For purposes of this section, a mezzanine shall be considered a story where access from the stairwell is provided.

6.6.4.2 Sign location – Stairway identification signs shall be located:

- within the stairway enclosure at each floor landing
- five feet above the floor level, measured to the bottom of the sign
- in a position that is readily visible when the doors are in the open and closed positions.

6.6.4.3 Sign details – A detail of the sign shall be provided on the plans for review. The details shall specify the following:

- The size shall be a minimum of 18 inches x 12 inches and constructed of durable material.
- The stairway identification, such as STAIR 1 or WEST STAIR, shall be placed at the top of the sign in 1-1/2-inch block lettering with 1/4-inch stroke.
- ROOF ACCESS or NO ROOF ACCESS shall be placed under the stairway identification in 1 inch block lettering with 1/4-inch stroke.
- The floor level number shall be placed in the middle of the sign in 5-inch block lettering with 3/4-inch stroke. Basement levels shall have the letter B preceding the floor number. Mezzanine levels shall have the letter M preceding the floor number.
- The floor levels served by the stair, such as B3 THROUGH 1, shall be identified at the bottom of the sign in 1 inch block lettering with 1/4-inch stroke.
- The level of exit discharge and direction to that level shall be indicated on the sign in 1 inch block lettering with 1/4-inch stroke.
- Characters and their backgrounds shall have a non-glare finish. All lettering shall be in sharp contrast to the background (light letters on dark background or vice versa).

6.6.4.5 Tactile sign – In addition to the visual stairway ID signs, a raised character and braille floor ID sign shall be located at the landing, adjacent to the door on the

latch side, in all enclosed stairways in buildings two or more stories in height. At the exit discharge level, this sign shall include a raised five-pointed star located to the left of the floor level number. The outside diameter of the star shall be the same as the height of the raised characters.

6.6.5 Area of refuge signs, CBC 1009.9, 1009.10, 1009.11: Stairwell landings and elevator enclosures designated as areas of refuge shall be provided with signs providing the following information:

- Directions to find other means of accessible egress
- Instructions to persons able to use the exit stairway to do so as soon as possible, unless they are assisting others
- Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance
- Notification that the elevator may only be operable by firefighters in a fire emergency and will not be available for unsupervised use
- Directions for use of the emergency communications system

These instructional signs shall comply with CBC Chapter 11

Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating, "AREA OF REFUGE." The sign shall comply with CBC Chapter 11 and include the international symbol of accessibility.

Each door providing access to an exterior area for assisted rescue shall be identified by a sign stating, "EXTERIOR AREA FOR ASSISTED RESCUE." The sign shall comply with CBC Chapter 11 and include the international symbol of accessibility.

Tactile signs conforming to CBC Chapter 11 including the international symbol for accessibility shall be provided at doors leading to areas of refuge or assisted rescue.

At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress. The signs shall comply with CBC Chapter 11, as applicable.

6.7 ELEVATORS

6.7.1 Medical elevators, CBC 3002.4a – When elevators are provided in buildings with SFM regulated occupancies, at least one elevator shall be designated as a medical emergency elevator and be able to accommodate a gurney measuring 2 feet by 7 feet with 5-inch radius corners. OCFA's preferred location of the medical elevator is the elevator closest to the main point of entry where firefighters would likely respond in an emergency. In structures where there are multiple elevators serving different sections of the building or where medical calls would be more frequent, such as in a large apartment building or care facility, multiple elevators may be required to be designated as medical elevators. If elevators are present, identify which is the medical



elevator and provide a diagram on the plan demonstrating that a gurney can be maneuvered into and fits fully within the elevator cab with doors closed.

6.7.2 Use of stairs instead of elevators – In two-story buildings, and in limited cases in three-story buildings where two more stories are at grade and each of those stories is served by a fire lane, the elevator may not need to be sized to accommodate a gurney provided that a gurney can be carried up the stairs. If this option will be used, provide a diagram demonstrating that the gurney can be maneuvered up the stairs in a horizontal position. For two story buildings, your stamped, approved architectural plan will be evidence to the State elevator inspector of OCFA’s concurrence with this design – *a separate concurrence letter is not required and will not be provided*. Where this exemption is granted on three-story buildings, written concurrence from the OCFA is required and may be requested at time of plan approval.

6.8 SWIMMING POOLS – OCFA review of swimming pools is generally limited to the chemicals either stored in the pool equipment room or present in the equipment itself. Architectural plans for a pool enclosure are required only for the following three situations:

- 1) When egress from another occupancy reviewed by the OCFA, such as an apartment building or hotel (R occupancy) or a clubhouse or restaurant (A occupancy), passes through the pool enclosure; or,
- 2) For indoor pools with 50 or more occupants.
- 3) Natatoriums, swim schools, and similar facilities with 50 or more occupants.

In that event, the OCFA will review the pool area for typical assembly occupancy egress requirements including, but not limited to, number and proximity of exits, installation of panic hardware, door swing direction, and signage.

Regardless of whether architectural review is required by the OCFA, Knox key boxes shall be provided on all exterior gates or doors to permit immediate firefighter access to the pool area in the event of an emergency. Pools and pool enclosures shall also comply with applicable requirements of other enforcing agencies, such as County Environmental Health and the local building department. See OCFA Guideline B-01 for Knox device requirements and submittal instructions.



ATTACHMENT 1

Plan submittal content checklist

ALL PROJECTS:

The following information, if applicable, shall be provided on the architectural plan

Project info

- A completed OCFA architectural cover sheet
- Construction documents shall be prepared and stamped by a registered design professional.
- If applicable, photocopy the approved planning documents with conditions of approval onto the plans.
- If the project incorporates an alternate method or material (AM&M), a copy of the AM&M documentation is scanned onto the plan.
- For plans submitted directly to the OCFA and not through the building department: structural, mechanical, and plumbing plans have been removed from the set if not specifically requested to be included by the OCFA reviewer.

Building info

- The total area of the building, including garages, breezeways and similar spaces.
- Size of the project, if it is a tenant improvement.
- The area of each occupancy classification on each floor.
- Wall area to opening ratio shown for exterior walls required to be rated due to proximity to property lines.

Fire sprinkler/alarm systems

- Indicate whether the building and/or tenant space is currently fully or partially fire sprinklered; and what portion of the building/tenant space the system will protect if it is not the whole building.
- State whether the building is fully or partially equipped with an alarm system, and if so what type (detection, evacuation/notification, sprinkler monitoring, etc.) and where. Specify the type of system to be installed and what portion of the building/tenant space it will protect if it is not the whole building.

Use/occupancy

- Occupancy classification and use indicated for each space, including adjacent tenant spaces.
- Occupancy separations and rated construction shown on plan. If the “non-separated” approach will be used, specify this on the plan and show the extent of the building or tenant space it will apply to.

- Include the area, occupant load factor, and total number of occupants for each space. For projects with complex egress systems or over 100 occupants, provide this information as part of an egress analysis diagram - See Attachment 2.
- Call out accessory uses and demonstrate with a calculation that they do not exceed 10% of area of the floor they are located on or, if in a multi-tenant building, 10% of the area of the primary use they support.
- Call out incidental use spaces. If sprinklers are being used in lieu of rated separation, note that incidental use spaces shall be separated from adjacent spaces by construction capable of resisting the passage of smoke.
- Classify accessory spaces according to use, not as the main occupancy

Egress

- Identify doors equipped with electronic locks (e.g., card readers, delayed egress devices, electromagnetic locks, or access control devices) - See Guideline E-01.
- Doors serving spaces with an occupant load of 50 or more swing in the direction of egress travel.
- Indicate the maximum travel distance from the most remote part of the building or area of work to the nearest exit, when that distance is greater than 150'.
- Fire-resistive construction (shafts, corridor walls, egress enclosures, door/window assemblies) identified and rating called out on plan.
- The location of all visual (i.e., illuminated) exit signs.
- The location, wording, and specifications for all tactile exit signs. Include a diagram.
- The location of all emergency lighting fixtures. A photometric analysis may be required if sufficient emergency lighting does not appear to have been provided.

OCCUPANCY/USE-BASED INFO

In addition to the generic information above, provide the information from each applicable section below on the plans

For new buildings & additions to existing buildings

- Provide a location on the plan/elevation drawings for the building address sign visible from the street the building is addressed from - See standard plan note #4.
- A diagram demonstrating that elevators serving more than 2 floors comply with the gurney/stretchers requirements of CBC 3002.
- Fire walls, frontage, and assumed property lines used to justify allowable area shown.
- If the property is adjacent to a fuel modification zone, non-combustible construction setback is identified.
- If project is located in a Fire Hazard Severity Zone, a note indicating "*Construction to conform to CBC Chapter 7A or an approved fire protection plan*" is included.

Multi-story buildings and projects located above grade level

- For buildings over 75' tall, the distance from the floor level of the lowest story that firefighters can enter the building to the floor level of the highest occupiable story or roof deck.
- The location, wording, and specification for all stair identification signs for stairwells serving four or more floors.
- The rise and run measurements of all new stairways.
- The slope of new ramps and aisles or other changes in elevation along the egress path.
- Elevator lobbies are provided when required, or the feature(s) allowing omission of a lobby are identified on the plan

A Occupancy - Assembly

- A letter of intended use on the business owner's letterhead, if the use of spaces is not readily apparent from the room names (i.e., a more specific name such as "Library" or "Conference Room" as compared to a generic use such as "Multi-purpose Room" or "Activity Room"). Photocopy to the letter on the plans.
- A seating diagram showing the location of all tables and/or chairs in each anticipated configuration for A occupancies.
- Identify all doors equipped with panic hardware with a "PH" on the floor plan and/or in the door schedule.
- Identify doors equipped with electronic locks (e.g., card readers, delayed egress devices, electromagnetic locks, or access control devices) - See Guideline E-01.
- The location and wording of occupant load signs in all A occupancies and classrooms that do not consist solely of fixed seating.
- The minimum aisle access way spacing between rows of seats in auditorium-style seating or the clear space between each set of tables and chairs in dining areas.
- All doors along exit paths serving occupants of assembly spaces shall swing in the direction of egress travel.
- The location of all low-level exit signs.
- Include the area, occupant load factor, and total number of occupants for each space. For projects with complex egress systems or over 100 occupants, provide this information as part of an egress analysis diagram - See Attachment 2.
- Show the entirety of the egress system serving occupants of assembly spaces to the public way, including panic hardware, exit signage, stairwell ID signage, emergency lighting, etc.

B/F/M/S/U Occupancy – Business/Factory/Mercantile/Storage/Utility

- Plans for hazardous equipment and processes have been submitted under a separate service request prior to or concurrently with the architectural plan.
- A chemical classification has been submitted under a separate service request prior to or concurrently with the architectural plan.

E/I-4 Occupancy – Educational/Daycare

- A letter of intended use on the business owner's letterhead, if not readily apparent from the room names
- Include quantity, age range, and grade-level of occupants for each space.
- Identify all doors equipped with panic hardware with a "PH" on the floor plan and/or in the door schedule.
- The location of all low-level exit signs.
- Building requires alarm system with (more than one may apply):
 - Smoke detectors in areas used for sleeping/napping
 - Smoke detection in every room and ceiling plenum space
 - Notification in common areas
 - Manual pull station in constantly attended location
 - Manual pull station at each exit
- Buildings containing I occupancy must be sprinklered
- I-4 classified as E only if <100 occ on discharge level w/ direct exits to exterior
- <3rd grade limited to 1st floor if unsprinklered or w/out dedicated egress
- Rated corridors required for non-sprinklered E and I-4
- Two exit paths required at 11 occupants for I-4 occupancies

H Occupancy – Hazardous

- Identify all doors equipped with panic hardware with a "PH" on the floor plan and/or in the door schedule.
- All doors in H occupancies shall swing in the direction of egress travel.
- Plans for hazardous equipment and processes have been submitted under a separate service request prior to or concurrently with the architectural plan.
- A chemical classification has been submitted under a separate service request prior to or concurrently with the architectural plan.

I Occupancy – Institutional

- Provide an egress analysis diagram - See Attachment 2.
- Identify all doors equipped with panic hardware with a "PH" on the floor plan and/or in the door schedule.

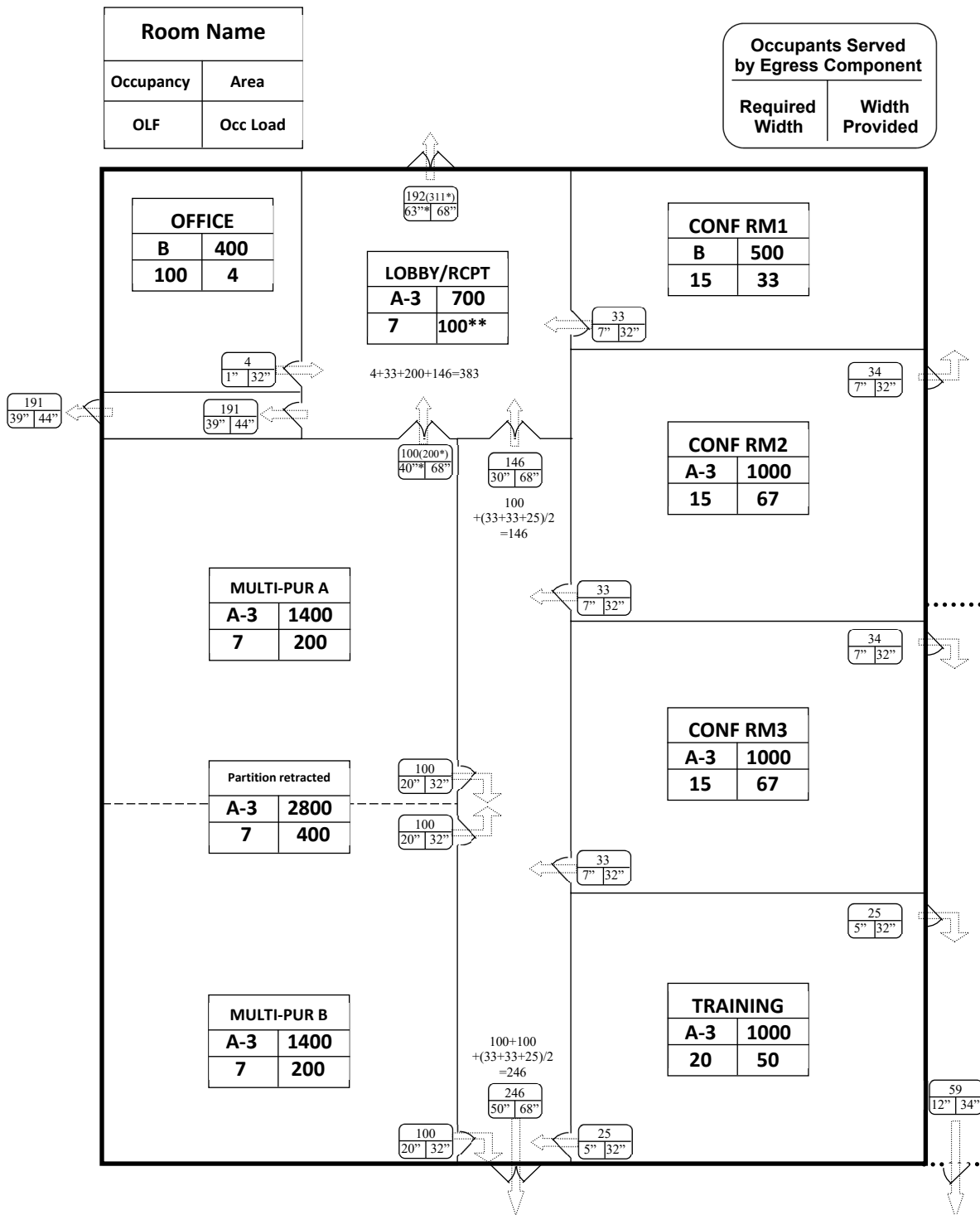
L Occupancy – Laboratory

- Identify all doors equipped with panic hardware with a "PH" on the floor plan and/or in the door schedule.
- Doors serving areas where chemicals are used or stored in L occupancies shall swing in the direction of egress travel.
- A chemical classification has been submitted under a separate service request prior to or concurrently with the architectural plan.

R Occupancy – Residential

- The location, sill height, and opening dimensions of all rescue windows and railing heights of all balconies serving rescue openings in R occupancies.
- The location of all low-level exit signs.
- If an NFPA 13-D system is proposed for R-2 rowhouses, note that all units are separated as per an R-3 townhouse
- If one of the exceptions is used to omit an alarm system, note which exception on the plan
 - corridors are open ended
 - attic/crawl/common spaces separated by 1-hr partitions
- Rated corridors required at 11 occupants

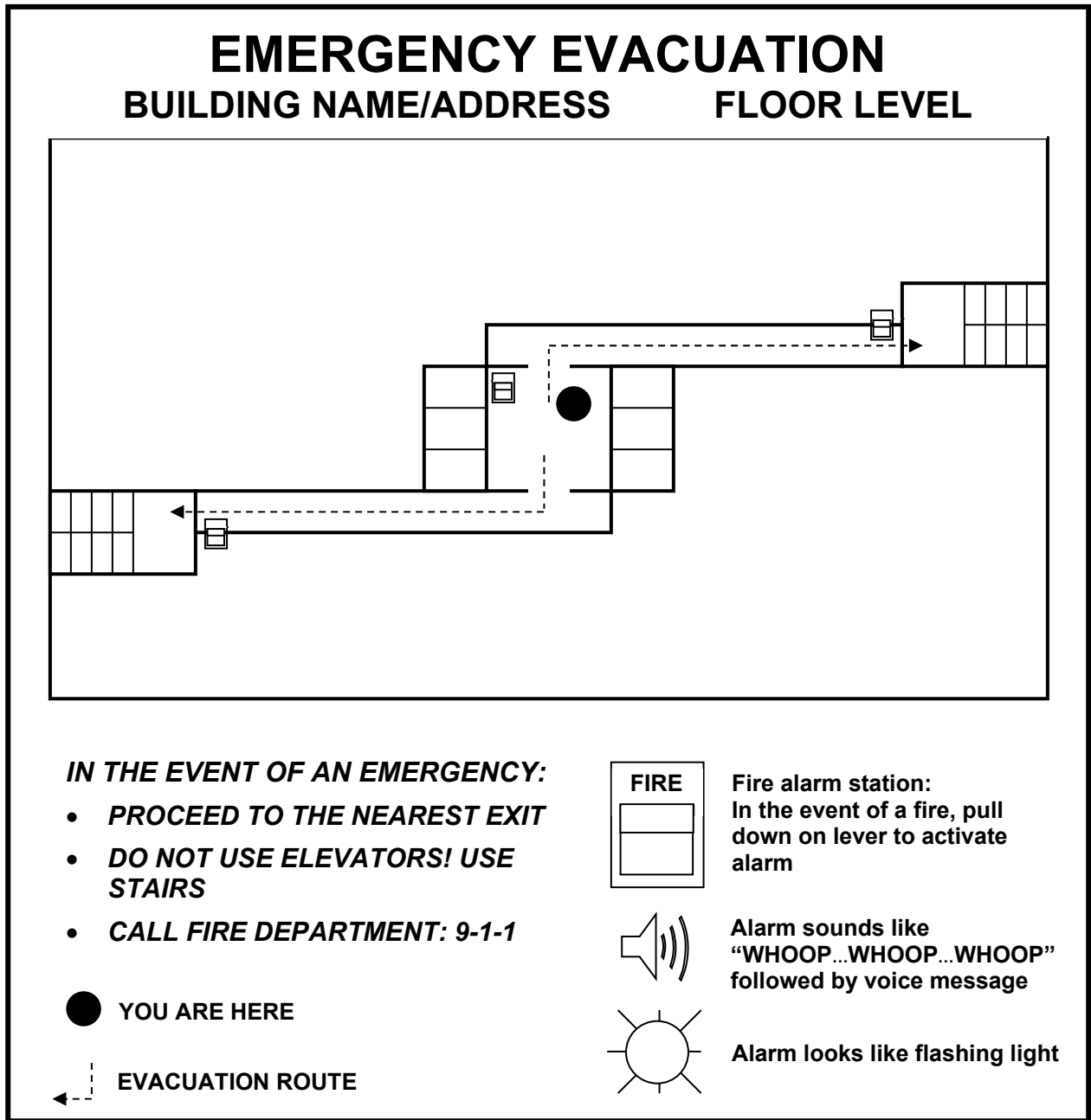
ATTACHMENT 2 Sample Egress Analysis Diagram



* Main exit must accommodate 50% of overall occupant load of space/building served per CBC 1028.2.

** Lobby occupants are same as those in other spaces. Egress provided for this space as if fully occupied, but occupant load is not counted in overall total for building.

ATTACHMENT 3 Sample Emergency Evacuation Sign

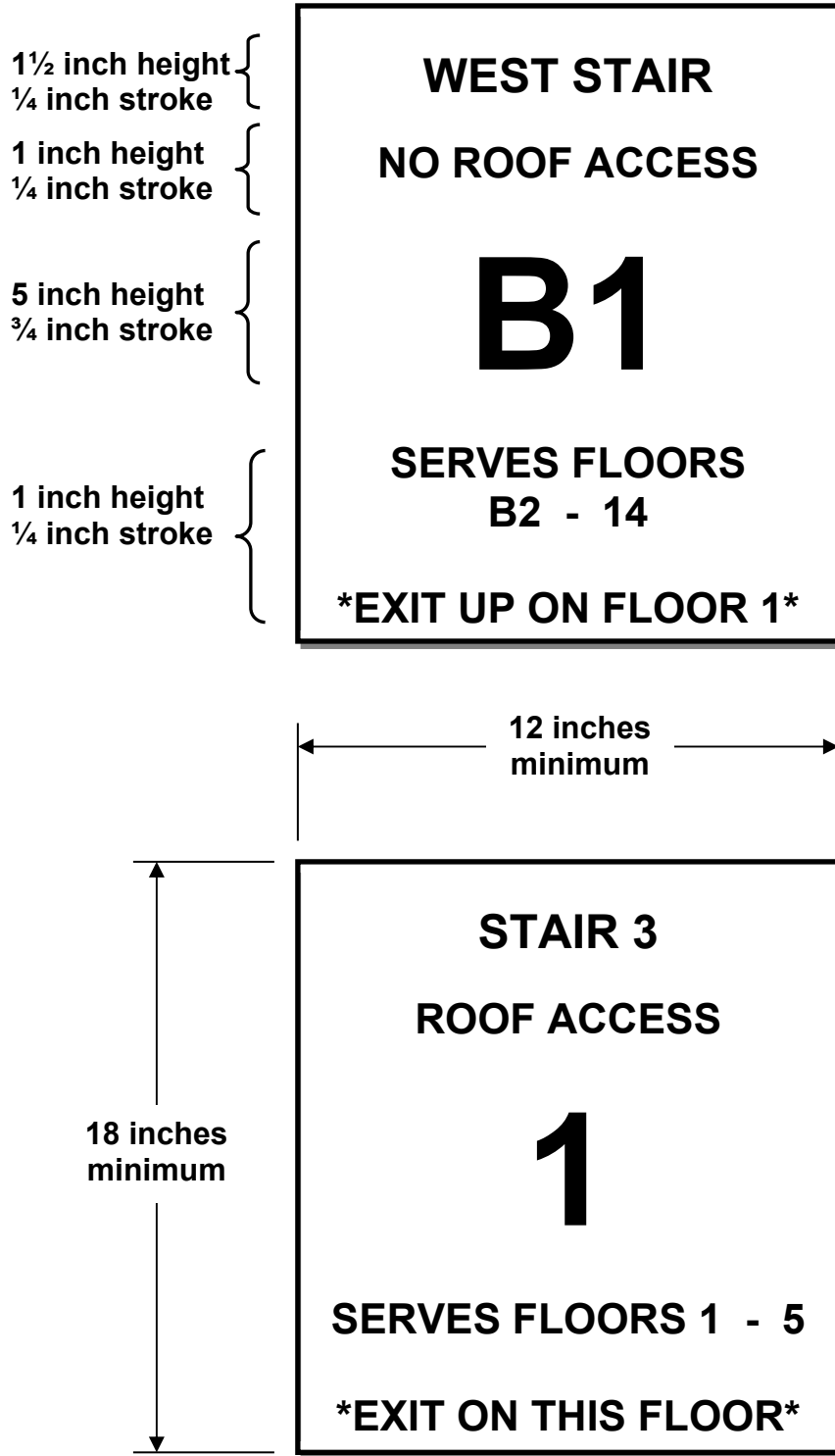


NOTE:

1. Floor plan shall be oriented to the viewer's perspective at each location
2. Signs shall be constructed of durable material
3. Lettering shall be minimum 3/16-inch high, non-decorative, and contrast sharply with background
4. Signs shall be posted at a height no greater than 48 inches above the floor level to the bottom of the portion of the sign containing emergency evacuation information.
5. Exit doors shall be clearly identified at grade level(s)
6. Signs shall include the information shown above at a minimum. Signs may also include additional emergency procedure instructions or location of other emergency resources such as extinguishers and strobes, safe refuge areas, etc.
7. If "9" or another number must be used to dial an outside line from house phones, indicate this on the sign

ATTACHMENT 4

Sample Stairway Identification Sign



ATTACHMENT 5

Definitions

Many terms used within this guideline and in correction letters issued by OCFA are defined specifically in Chapter 2 of the CBC and CFC and further clarified throughout the code by the context in which they are used. In some cases, terms may convey a specific meaning when used by design, construction, and code enforcement professionals that may vary from common use. The following definitions are provided to facilitate the consistent application of this guideline and to aid in clear communication between applicants and OCFA staff.

Alteration - Any construction or renovation to an existing structure other than repair or addition. A change, addition or modification in construction, change in occupancy or use, or structural repair to an existing building or facility. Alterations include, but are not limited to: remodeling, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of circulation paths or vehicular ways, changes or rearrangement of the structural parts or elements, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance, reroofing, painting or wallpapering, or changes to mechanical and electrical systems are not alterations unless they affect the usability of the building or facility.

Certification – A declaration by the State Fire Marshal’s office, testing lab, registered engineer, or other agency or individual approved by the OCFA that a product is suitable for an intended use or meets specific testing or listing criteria.

Change of Occupancy - A change in the use of a building or a portion a building which results in one of the following:

1. A change of occupancy classification.
2. A change from one group to another group within an occupancy classification.
3. Any change in use within a group for which there is a change in application of the requirements of this code.

Chemical Classification/Chem Class – An inventory of the hazardous materials stored or used at a facility or site. A hazardous material is defined as *any* liquid, solid, or gas that is required to have a material safety data sheet, or MSDS. The chemical classification does not need to include common products intended for routine cleaning and maintenance of the facility itself such as glass cleaner, floor polish and the like, reasonably expected to be found in limited quantities in all structures. See OCFA Guidelines G-05 and G-06 for additional information related to hazardous materials.

Convenience Doors, Non-required Doors – Additional doors beyond the minimum required to meet code that are installed to facilitate the use of the room for its intended purpose. Doors that are not *required* by code for egress purposes but may still serve as part of a legitimate egress path must comply with the exit door requirements of CBC 1008.

Corridor, Hall, or Hallway – A defined circulation space having wall and ceiling/floor assemblies. Doors, windows, and other openings into corridors may or may not be required to be of rated construction depending on the occupancy and number of persons

served by the corridor and whether the building is protected throughout by fire sprinklers or other code requirements. Other spaces that essentially function as corridors but may not be completely enclosed by wall and ceiling/floor assemblies, as is the case for many interior and exterior egress paths, shall be treated as a corridor for purposes of determining minimum width.

Daycare – A facility or area providing supervision or custodial care of individuals who, due to age, mental state, or other conditions, have their ability for self-preservation limited or impaired or who evacuate at a slower rate than the general population. Daycare uses may include facilities such as non-residentially-based babysitting or adult care, services for the disabled, Alzheimer’s facilities, nurseries and preschools, or facilities licensed by the State or local jurisdiction as a daycare or day program facility. These facilities are typically classified as E or I-4 occupancies depending on the number and age of occupants when the occupants are on-site for a period of less than 24 hours or as R occupancies when 24-hour service is provided. Sports training, dance schools, and similarly focused recreational programs where children are on site only for the duration of the training session itself and do not receive other supervision or care services are usually considered an A-3 occupancy if more than 49 occupants are present. See also Nursery and Preschool.

Decorative Materials - All materials applied over the building interior finish for decorative, acoustical or other effect including, but not limited to, curtains, draperies, fabrics and streamers; and all other materials utilized for decorative effect including, but not limited to, bulletin boards, artwork, posters, photographs, batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items, foam plastics and materials containing foam plastics. Decorative materials do not include wall coverings, ceiling coverings, floor coverings, ordinary window shades, interior finish and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

Emergency Escape and Rescue Opening - An operable window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency. See Appendix R for required ladder pad setback relative to openings.

Exit Access Doors/Exit Doors/Egress Doors – Doors and doorways required by the CBC that allow travel from a space or structure. Such doors shall meet all of the requirements of the CBC such as quantity, placement, size, door swing direction, and hardware.

Exit Passageway - An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives and provides for a protected path of egress travel in a horizontal direction to an exit or to the exit discharge.

Facility - All or any portion of buildings, structures, site improvements, elements, and pedestrian routes or vehicular ways located on a site.

Fire Area - The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.

Fire Exit Hardware - Panic hardware that is listed for use on fire door assemblies.

Hazardous Materials - Those chemicals or substances that are physical hazards or health hazards as classified in Section 307 and the CFC, whether the materials are in usable or waste condition.

High-Rise Building - A building with an occupied floor located more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access. See OCFA Guideline H-01 for detailed high-rise building information and requirements.

Laboratory - A room, building or area where the use and storage of hazardous materials are utilized for testing, analysis, instruction, research or developmental activities.

Laboratory Suite - A laboratory suite is a Group L Occupancy space within a building or structure, which may include multiple laboratories, offices, storage, equipment rooms or similar support functions, where the aggregate quantities of hazardous materials stored and used do not exceed the quantities set forth in Table 453.7.3.1 (see Section 453).

Legitimate Egress Path – A path of travel from a space to the public way or safe dispersal area that complies, or can feasibly be designed to comply, with the egress requirements of CBC Chapter 10. Paths of travel may still qualify as legitimate egress paths though they may not be *required* egress paths. Because many potential egress paths that are not required by code are indistinguishable from required ones and can be expected to be used by occupants in an emergency situation, they shall meet the applicable provisions of required egress paths whenever possible; for example, every door serving occupants of an assembly that is part of a legitimate egress path to the public way shall be equipped with panic hardware.

Letter of Intended Use – A letter provided by a building or business owner detailing the anticipated uses of the structure or space or identifying the types of processes, equipment, or materials used in a facility. Such letters assist in defining the appropriate occupancy or use-related requirements for a project and may include diagrams or plans such as furniture or equipment layouts. Such letters may also establish the conditions of use that approval by the OCFA is based upon.

Lobby – A room located at the entrance of a building that occupants pass through to access other spaces within the structure. Unlike a waiting or reception room, a lobby generally does not serve any use other than circulation. Where lobbies are required to be of rated construction, they shall contain only minimal amounts of combustible furnishings and fixtures, such as an information desk or directional kiosk, and shall not be used for purposes such as a lounge or waiting room.

Normally Occupied Space – Rooms or areas that are occupied frequently throughout the day or intermittently for extended periods during the normal course of operation of a facility. Such areas *may* include offices, conference rooms, break rooms, copier rooms, restrooms, warehouses, file rooms, and similar accessory or administrative areas, but do not normally include supply or storage rooms, janitorial closets, or mechanical rooms.

Nursery – A facility for the care of infants and toddlers younger than three years. See also Daycare and Preschool.

Preschool – A facility for the care and/or education of small children not yet old enough to enter kindergarten, typically under 5 years of age. See also Nursery and Daycare.

Public Way – A street, alley, sidewalk, plaza, or other area permanently dedicated to the general public for their use. Egress requirements typically end at the public way as it is substantially open to the sky, providing safety from smoke inhalation, and provides an opportunity for the occupants of a structure or other space to freely disperse from danger in the event of a fire or other emergency.

Room/Space – An area where travel is constrained or where smoke, fire, or panic may present an immediate hazard. A room or space may include exterior areas such as a balcony, terrace, or patio enclosed by fences, walls, vegetation, or other obstructions. Two areas that are adjacent to each other but visually, physically, acoustically, atmospherically, or functionally separated, may be considered by the fire code official for purposes of code application to be either the same or separate spaces, dependent upon the degree and/or type of separation and how these may potentially affect the occupants in an emergency.

Refrigeration – Industrial or commercial systems used to regulate the air temperature within a building or space for the preservation of food, specimens, equipment, or other material. For purposes of OCFA review, refrigeration systems do not include air conditioners installed as part of a building's ventilation system for the comfort of occupants unless ASHRAE standards require a mechanical equipment room.

Rescue Openings – Exterior doors/windows required in sleeping rooms of certain R occupancies to facilitate evacuation or rescue of occupants. Any area provided with a closet or storage space or en-suite bathroom that could easily be converted into a sleeping room, such as a "bonus room," "den," or "home office," shall be considered a sleeping room when considering rescue window requirements. See OCFA Guideline B-09 for detailed requirements.

Safe Dispersal Area – An area that allows the occupants evacuating a structure to maintain a safe distance from the structure without actually leaving the property and traveling to the public way.

Structure/Building – A construct intended to house or contain people, equipment, objects, or processes, within which travel is constrained, or where smoke, fire, or panic may present an immediate hazard. A structure or building may or may not have a roof or be enclosed with walls.