

Means of Egress or Emergency Escape Webinar

- **First, let's get an** understanding of what each term means. Emergency escape and means of egress.
 - These definitions are the same in the property maintenance code, building code, residential code, and fire codes.
- **An emergency escape** and rescue opening *is an operable window, door, or similar device that provides for a mean of escape and access for rescue in the event of an emergency*
 - The purpose for an emergency escape window is fatal fires occur while people are asleep. The reasons for the increased hazard are: people often have delayed reactions once they notice a fire (occupants waking up from sleep can be temporarily confused); rooms are darkened; and occupant are dressed in bedclothes. All of these circumstances reduce the reaction time of the occupants and increase the likelihood of compromising their ability to exit a building.
- A **means of egress** *is a continuous and unobstructed path of vertical and horizontal egress travel from any occupied point of a building or structure to a public way.*
 - The fire code goes a bit further with the definition stating the means of egress *consists of 3 separate and distinct parts (1) the exit access, (2) the exit, and (3) the exit discharge.*
 - Note that a **Public Way** *is a street, alley, or other parcel of land open to the outside air leading to a street.*
- **Before we dive into** the code requirements, when were these codes established?
 - Means of Egress has been around for some time in Hagerstown. The earliest code book we have on file in our office is the Official Building Code of the City of Hagerstown Maryland 1927 edition has section devoted toward Means of Egress. This code could have existed before, our library of code books currently goes back to 1927.
 - There are 10 sub sections under the means of egress umbrella of what a building is required to have if over one story in height.
 - Side note – When you flip through the book, there are ads from the local businesses in the book. This is a trip down memory lane when you are looking things up in this book.
 - Emergency Escape windows do not have as long of a history in the code books. The first mention of an emergency escape window in code library was in the 1979 One & Two Family Dwelling Code book.
 - Our research for this webinar indicated the escape window code first appeared in a codebook in 1964.
 - The first mention of emergency escape windows in the Property Maintenance Code for the City of Hagerstown was in the 1990 which is for existing structures.
- That is a little bit of history on these two codes, emergency escape and means of egress. Now, we are going to dive into the codes currently adopted.
- **First, let's examine** the means of egress.
 - When is a means of egress required?

- Every structure is to have a means of egress out of the unit.
- The main question for this discussion is; when is a second means of egress required?
 - A unit that is located above the second floor or a third floor and above unit requires two means of egress. This comes from section 702.3 of the Property Maintenance Code.
- Diving further into the number of exits required, what are two exits?
 - All occupants are to have access to at least two independent exits.
 - What we mean by independent is there is to be two ways out of the unit. There are a couple of ways to achieve this requirement.
- Most common way of obtaining two independent exits is
 - Construct a second means of egress on the exterior of the structure. This is the most common because most of the structures in Hagerstown with 3rd floor and above apartment units were not originally constructed with a third floor unit. If they were, they have an existing second means of egress.
 - Remember, this has been in Hagerstown's Code for approximately 100 years.
 - The other way is two independent exits on the interior of the structure. Let's look at some of our larger buildings in Hagerstown that meet this requirement. Such as Elizabeth Court or Alexander House. These structures do not have exterior means of egress and each unit does not have a door to the exterior.
 - This is because the corridor in the hallway is a fire rated corridor. The unit exits into this corridor or hallway and the occupant then has two ways to exit out of the corridor.
 - A majority of our third floor and above units that were converted years later did not have these two internal means of egress. Over the years these second means of egress were added. Unfortunately, most likely some of these units still do not have a second means of egress.
- **So you need to have** a second means of egress from your third floor and above unit, how do you construct one? (For this purpose, we are going to talk about a new one on the exterior one)
 - The new means of egress will have to meet the currently adopted International Building Code. This is currently the 2018 version.
 - Why the IBC and not the residential code? Well, the residential code only covers one and two family dwellings. Since this is a third floor unit, most likely it is a three unit or more structure. The IBC is the code for three or more unit structures.
 - The Building Code requires the means of egress is to have treads at least 11 inches deep and risers no higher the 7 inches. There are to be landings when the height is more than 12 feet on risers.
 - The code requires an exit out of the unit to the means of egress which is to be a door. We have allowed on rare occasions in the past the use of

an emergency escape window in lieu of a door but this has to be approved by the Chief Code Official and Fire Marshal. These are case by case basis.

- There can be other requirements for a new means of egress or if you have to replace one due to deterioration. A building permit is required for the construction of a new means of egress or replacement of one.
 - Once you apply the plans will be reviewed and comments will be provided by the reviewer. Please be sure to always review the comments provided because there may be changes you have to make to meet code.
- **What about existing** second means of egress?
 - These are great if you already have one, certainly saves some costs.
 - The existing egress path is to be safe, continuous and unobstructed path of travel from any point in a building or structure to a public way
 - These need to have a path all the way to a public way. They are not to stop at a second floor, they must go to the ground.
 - We have had them stop at the second floor or on a roof. The stairs must go all the way to the ground to a public way.
 - The exits from a dwelling unit are to not go through other units or through a toilet room or bathroom.
 - Yes, we have come across means of egress that have gone through another unit and also one through a bathroom. These egress paths are not permitted.
 - The means of egress stairs, exterior and interior, are to have at least one handrail on one side of the stairs.
 - On any open portion of the stairs, there are to be guards with an opening no more than 4 inch spacing.
 - The exiting means of egress are to be illuminated of not less than 1 foot-candle.
- **Lastly on a means of egress**, there is to be a safe path to the ground and this includes the egress path across a roof. There is to be a cattle shoot or walkway to guide the occupants across a roof to the stairs.
 - Another option is to have guards around the entire roof edge.
 - These types of roof egress paths can create confusion in the event of an emergency. People become disoriented and without the proper safeguards in place could take a wrong turn.
 - The guards or cattle shoot protects people when egressing from the structure to safely make their way to the stairs across the roof.
 - This is required for new and existing structures.
- Alright, hopefully you have a better understanding of when a second means of egress is required. Now we are going to discuss an emergency escape.

- **As we mentioned** a little bit earlier in this webinar, an emergency escape window was first required in new construction in the 1960s and was then added to the property maintenance code in 1990.
 - We are asked at times, aren't things like this grandfathered in with the code. The property maintenance code is the minimum standard or you could call it the grandfathered code. The code takes into account how construction has evolved over the years while also establishing minimum standards where studies have shown this standard is needed to save lives.
 - We are not going to deny, this is can be difficult to achieve the minimum standard but if one life is saved, it is worth the investment.
- **So, when are** they required?
 - Every sleeping room located at or below the third story in a residential structure shall have at least one operable window or exterior door for emergency escape or two independent exits. The independent exits being the means of egress we just mentioned.
 - There is an exemption to the code requirement for an emergency escape window and that is if the building is equipped throughout with an approved automatic fire suppression system.
- Now that we know these emergency escapes are required pretty much in a majority of homes in Hagerstown, what size do they have to be?
 - The minimum dimension for an escape window is to have a clear opening height of 24 inches. The minimum clear opening width is to be 20 inches.
 - A requirement for all emergency escape windows is all window sills cannot be higher than 44 inches above the floor surface. This is for all levels in a unit.
- **What does the overall** square footage for the window have to be?
 - The clear opening is to be 5.7 square feet for windows on the second, third, and basement sleeping room.
 - The clear opening for a ground level or first floor is 5 square feet.
 - Some of you might be thinking, I don't have window that large to meet that code requirement. What do I have to do?
 - The one thing our code does is takes into consideration the age of the home. At the time of construction, a smaller window may have meet the code.
 - As we mentioned with the building code from 1927, the same is in place for windows. The older code may permit a smaller windows than we just mentioned.
 - The code official performing the inspection will evaluate the situation to determine if an emergency escape window is required.
 - As I am sure many of you can recall, we are typically not requiring an escape window on the second floor of a residential unit. The windows come into play with basement units/bedrooms and third floor bedrooms.

- As we mentioned earlier, the third floor bedrooms or units were typically not part of the original construction of the structure. This is the same for basement units or bedrooms, these were added later and at times without permits.
 - This is when the currently adopted code has to be met for these escape windows which is the 5.7 square feet.
- If you need to install an emergency escape window a building permit may be needed for the installation.
- **Let's first talk** about a 3rd floor bedroom
 - When a 3rd floor bedroom requires an emergency escape window, a permit is not always required.
 - If the entire window opening is large enough but is not a casement window, then the replacement of the window with a casement does not require a permit for this replacement.
 - A side note being, if the property is located in an historic district, then you must have HDC approval prior to performing the replacement. There is no fee for this review.
 - If you do not have a large enough window opening, take a look at the header. If it is large enough to support the exterior wall and roof above, then you might be able to make a larger opening without a permit. I would recommend contacting our building inspector before proceeding using the existing header.
 - If the window meets the width requirement of 20 inches clear opening, then maybe you could go down to make a larger window. This too would not require a permit.
 - One thing to be aware of is if the bottom of the window is within 18 inches of the floor then the window will have to tempered glass meaning it won't shatter if someone fell into it. This is a Maryland Safety Glass Law requirement.
 - Most of these third floor bedrooms have the typical small attic window, when this is the case, an emergency escape window building permit would be required.
- **When you have** a basement sleeping room, a building permit is more likely to required.
 - Just the same as in the attic, if the window opening is large enough already, a permit is not required to replace the window.
 - If the opening needs to be expanded, then a permit is required. Even if you are able to create a larger opening by going below the existing window, a permit is still required.
 - Why is the permit required if the opening is expanding down in a basement?
 - There are several factors and this is typically a foundation wall. Larger openings have to be evaluated and inspected.

- Also, the larger window may require a window well if you are going below grade.
 - Window wells have a minimum requirement, basically the window well has to 9 square feet, 3 foot by 3 foot.
- Sum up what was covered
 - Means of egress and escape windows are required in every structure.
 - They are required because in the event of an emergency, occupants need to get out of the structure as safely as possible.
 - Whenever you have a situation and do not know if it meets code, please contact our office. We are happy to come and assist you with the determination and through the permit process.
- Frequently asked questions
 - Can I use one of the rolled up ladders as a fire escape?
 - No, the code does not permit the use of ladders as the means of egress. Although they are sold as a means to escape from the home, there are no codes supporting these types of ladders as a means of egress.
 - What if I have a second floor unit that also utilizes the third floor, does this type of unit require a second means of egress from the third floor?
 - No, a second means of egress is only required when the entire unit is on the third floor or above. You may be exempted from the second means of egress but must still meet the escape window requirements.
 - I have a double hung window and both sashes pop out, does that meet the code?
 - No, double hung windows do not meet the definition of emergency escape. When a window is opened with normal operations, the clear opening is to be 5.7 square feet.
 - My window is more than 44 inches above the floor level, can I build stairs to the window?
 - These are case by case basis. Only the Chief Code can grant the use of stairs. This has been rare and only when extreme practical difficulties are in place. The cost of lowering the window sill is not a difficulty.