



MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

October 18, 2023

Anibal Lavalle
1005 Crystal Water Drive
Fuquay Varina, NC 27526

RE: 2018 NC Residential Code Section R311 Means of Egress

Anibal Lavalle:

This letter is in response to your request for formal interpretation to the Office of State Fire Marshal ("OSFM") dated March 21, 2023, which NCDOI received by email the same day. I am addressing your requests below in the order in which they are posed.

Your letter states in relevant part:

"Formal Interpretation to Section R311 Means of Egress for 2018 NC Residential Code, only. Specific Questions/Scenarios and reference code sections attached to email request. Formal interpretation by NCDOI only. Questions/Scenarios where interpretation is requested, are commonly encountered on my day to day inspections."

Remarks:

Attachment A is comprised of the request for formal interpretation as well as all supporting information submitted with the request.

"INTERPRETATION 1:

- A single (Qty 1) **External Egress Door**, meets NC Code requirements. Therefore all other external doors **need not** be considered as external egress door(s), for NC Code compliance.
 - o Reference Section R311.2 and Interpretation"

Interpretation 1 Code Analysis: All dwelling units shall have at least one exterior egress door that opens to the exterior of the dwelling. A distinction is drawn between the required egress door and all other exterior egress doors.

R311.1 Means of Egress. All *dwelling*s shall be provided with a means of egress as provided in this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal

egress travel from all portions of the *dwelling* to the exterior of the *dwelling* at the required exterior egress door without requiring travel through a garage.

Exception: Equipment service platforms may be served by ladders constructed in accordance with Section R310.2.3.1.

R311.2 Egress Door. Not less than one exterior egress door shall be provided for each *dwelling* unit. The egress door shall be side-hinged, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other exterior doors shall not be required to comply with these minimum dimensions. All interior egress doors and a minimum of one exterior egress door shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

NCDOT Conclusion of Interpretation 1: No other exterior doors are required to meet the exterior egress door code dimension requirements so long as at least one code-compliant exterior egress door is provided. If additional exterior egress doors are provided, then those doors are required to meet the code requirements applicable to exterior egress doors.

“INTERPRETATION 2:

- **A).**- The **Required External Egress Door**, shall have an exterior landing or floor, **NO** exceptions.
 - Reference Section R311.3 and R311.3.1 and Interpretation

- **B).**- The exterior landing or floor, **for required External Egress Door** shall be:
 - **B1).**- Not more than 1 ½” below the top of the threshold, provided the Door **swings over** the landing or floor.
 - Reference Section R311.3.1 and Interpretation.
 - **B2).**- Not more than 8 ¼” below the top of the threshold, provided the Door **does not swing over** the landing or floor.
 - Reference Section R311.3.1 and Interpretation.

- **C).**- If a landing or floor, for **a required external egress door** is not on grade, access to grade shall be provided, either thru a ramp, per section R311.8 or a stairway per section R311.7. The ramp or stairway is in addition to the landing or floor.
 - Reference Section R311.3.1 and interpretation.”

Interpretation 2 Code Analysis: A landing or floor is required on both the exterior and interior sides of each exterior door. Landings or finished floors at the required egress door shall be not more than 1-1/2 inches lower than the top of the threshold, this assumes the door may swing in or out, as the floor levels are the same. The exception in R311.3.1 allows that the exterior landing or floor may be not more than 8-1/4 inches below the top of the threshold provided the door does not swing over the landing or floor.

A code compliant ramp or stairway is required in addition to the exterior landing or floor of a required egress door if grade level and the exterior landing or floor are not at the same elevation.

R311.3 Floors and Landings at Exterior Doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Every landing shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent).

Exception: Exterior balconies less than 60 square feet (5.6 m²) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.

R311.3.1 Floor Elevations at the Required Egress Doors. Landings or finished floors at the required egress door shall be not more than 1-1/2 inches (38 mm) lower than the top of the threshold.

Exception: The exterior landing or floor shall be not more than 8 1/4 inches (210 mm) below the top of the threshold provided the door does not swing over the landing or floor.

Where exterior landings or floors serving the required egress door are not at *grade*, they shall be provided with access to *grade* by means of a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

NCDOT Conclusion of Interpretation 2: An exterior landing or floor is always required for an exterior egress door. The exterior landing or floor of an exterior egress door is permitted to be a maximum of 1-1/2 inches below the top of the threshold if the door swings over the landing or floor. The exterior landing or floor of an exterior egress door is permitted to be a maximum of 8-1/4 inches below the top of the threshold provided the door does not swing over the landing or floor. A ramp or stairway is required in addition to the exterior landing or floor of a required exterior egress door if grade level and the exterior landing or floor are not at the same elevation.

“INTERPRETATION 3:

- For **Exterior Doors, OTHER THAN Required External Egress Door:**

o **A).**- If the door **swings over the stairway** , a floor or landing is required, not more than 8 ¼” below the top of the threshold, **NO** exceptions.

▪ Reference Section R311.3.2 and interpretation of exception.

o **B).**- If the door **does not swing over the stairway**, a floor or landing is still required, except if a stairway is located on the exterior side of the door.

Therefore exterior door(s) under Interpretation 3B and exception conditions may open directly to an external stairway.

▪ Reference Section R311.3.2 and Exception

o **C).**- For exterior doors **other than a required external egress door**, If external floor or landing (where required), is not on grade, access to grade shall be provided, either thru a ramp, per section R311.8 or a stairway per section R311.7.

- No Specific Reference, but interpretation of Section R311.3.2 (exception), and intent of the Code.”

Interpretation 3 Code Analysis: For exterior doors other than the required exterior egress door, the top of the threshold can be up to 8-1/4 inches above outside landings or floors. A landing or floor is required on both the exterior and interior sides of exterior doors other than the required exterior egress door, however an exterior landing or floor is not required for exterior doors other than the required exterior egress door if a stairway is located on the exterior side of the door, and the door does not swing over the stairway. Access to grade is not a code requirement for other exterior doors.

R311.3.2 Floor Elevations for Other Exterior Doors. Doors other than the required egress door shall be provided with landings or floors not more than 8-1/4 inches (210 mm) below the top of the threshold.

Exception: A landing is not required where a stairway is located on the exterior side of the door, provided that the door does not swing over the stairway.

NCDOI Conclusion of Interpretation 3: Except for the exterior stair requirement noted in the code referenced exception, a landing or floor is required on both sides of an exterior door other than the required exterior egress door. The exterior landing or floor of an exterior door other than the required exterior egress door is permitted to be a maximum of 8-1/4 inches below the top of the threshold no matter if the door swings in or out. An exterior landing or floor is not required where a stairway is located on the exterior side of an exterior door other than the required exterior egress door, provided that the door does not swing over the stairway. There is no code requirement for the addition of an exterior ramp or stair to grade for an exterior door other than the required exterior egress door.

“INTERPRETATION 4:

- A single step between an external door and floor is not considered a Stairway.
 - o Reference Sections:
 - NC Residential Code definition of Stairway (One or more Flight of Stairs, Page 24 of NC Code),
 - Definition of Flight (A continuous run of rectangular threads, Page 13 of NC Residential Code).
 - A single step has a single thread, therefore not a continuous run of threads, therefore not a flight of stairs, therefore not a stairway.”

Interpretation 4 Code Analysis: All steps, even a single step, are defined as a stair and consist of one or more risers. A riser is a vertical component of a step or stair. Stairways connect one level to another level through a series or set of steps. A flight is a stairway connecting one level to another level.

[RB] STAIR. A change in elevation, consisting of one or more risers.

....

[RB] RISER.

1. The vertical component of a step or stair.
2. A water pipe that extends vertically one full story or more to convey water to branches or to a group of fixtures.

....

[RB] STAIRWAY. One or more flights of stairs, either interior or exterior, with the necessary landings and connecting platforms to form a continuous and uninterrupted passage from one level to another within or attached to a building, porch or deck.

....

[RB] FLIGHT. A continuous run of rectangular treads or winders or combination thereof from one landing to another.

NCDI Conclusion of Interpretation 4: A single step is a series or set of steps and therefore is a stairway and a flight because the single step connects one level to another level.

“INTERPRETATION 5:

- A door communicating the inside of the building to a Garage is prohibited from being an external egress door.
 - o Reference R311.1 and interpretation”

Interpretation 5 Code Analysis: The required exterior egress door shall access the exterior of the dwelling without requiring the occupants to travel through the garage. Garages may contain hazards that could prevent suitable means of egress for occupants.

R311.1 Means of Egress. All *dwelling*s shall be provided with a means of egress as provided in this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the *dwelling* to the exterior of the dwelling at the required exterior egress door without requiring travel through a garage.

Exception: Equipment service platforms may be served by ladders constructed in accordance with Section R310.2.3.1.

NCDI Conclusion of Interpretation 5: The required exterior egress door is prohibited from opening into a garage. The required exterior egress door is only permitted to open to the exterior of the dwelling. The garage is not exterior to the dwelling in terms of the required means of egress.

“INTERPRETATION 6:

- A door communicating the inside of the building to a Garage is subject to NC Code requirements for **other than** required egress door.
 - o No specific reference, but intent of the Code.”

Interpretation 6 Code Analysis: A door communicating the inside of the dwelling with the garage is subject to code requirements beyond R311, that is, required to be a solid wood door not less than 1-3/8 inches in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches thick, or 20-minute fire-rated doors.

R302.5.1 Opening Protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

Exception: A disappearing/pull-down stairway to uninhabited attic space with minimum 3/8-inch (9.53 mm) (nominal) fire-retardant-treated structural panel is equivalent to the separation requirement from attics in Table R302.6.

....

R311.6.1 Interior Egress Doors. All doors providing egress from habitable rooms shall have nominal dimensions of 2 feet 6 inches (782 mm) width by 6 feet 8 inches (2032 mm) height. Interior egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

....

[RB] HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

....

R311.3.2 Floor Elevations for Other Exterior Doors. Doors other than the required egress door shall be provided with landings or floors not more than 8-1/4 inches (210 mm) below the top of the threshold.

Exception: A landing is not required where a stairway is located on the exterior side of the door, provided that the door does not swing over the stairway.

NCDOI Conclusion of Interpretation 6: As previously noted, a door communicating the inside of the dwelling to the garage cannot be the required exterior egress door therefore it is not subject to the code dimension requirements of required exterior egress doors. Since a garage is not a habitable space it is not subject to the code requirements for interior egress doors. A door communicating the inside of the dwelling with the garage is required to be a solid wood door not less than 1-3/8 inches in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches thick, or 20-minute fire-rated doors and is subject to the code requirements of doors other than the required egress doors.

“INTERPRETATION 7:

- Is top of threshold, referenced at Sections R311.3.1 and R311.3.2, as indicated at below picture?”



Interpretation 7 Code Analysis: A threshold is the sill of the door.

NCDOT Conclusion of Interpretation 7: The top of the threshold is the absolute top of the threshold including any attachments to the sill (excluding weatherstripping).

“INTERPRETATION 8:

Section R311.3.2: **For other exterior doors**, The exception indicates that a landing is not required, where a stairways is located on the exterior side of the door, provided the door does not swing over the stairways. Next, Section R311.7.6 Landings For Stairways, mandates that “there shall be a floor or landing at the top and bottom of each stairway”. These two requirements appear to contradict each other. INTERPRETATION: Per Section R102.1, where there is a conflict between a general requirement and an specific requirement, the specific requirement shall be applicable. Section R311.3.2 is specific, therefore a landing is not required, for other exterior doors, where a stairways is located on the exterior side of the door, provided the door does not swing over the stairways.”

Interpretation 8 Code Analysis: A landing or floor is required on both the exterior and interior sides of exterior doors other than the required exterior egress door, however an exterior landing or floor is not required for exterior doors other than the required exterior egress door if a stairway is located on the exterior side of the door, and the door does not swing over the stairway. In general, there shall be a floor or landing at the top and bottom of each stairway.

R311.3.2 Floor Elevations for Other Exterior Doors. Doors other than the required egress door shall be provided with landings or floors not more than 8-1/4 inches (210 mm) below the top of the threshold.

Exception: A landing is not required where a stairway is located on the exterior side of the door, provided that the door does not swing over the stairway.

....

R311.7.6 Landings for Stairways. There shall be a floor or landing at the top and bottom of each stairway. A flight of stairs shall not have a vertical rise larger than 12 feet 3 inches (3734 mm) between floor levels or landings. The width of each landing shall not be less than the width of the stairway served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.

NCDOT Conclusion of Interpretation 8: The specific requirement for exterior doors other than the required exterior egress door is applicable. An exterior landing is required at the top of the exterior stairs by 2018 NCRC R311.3.2 and R311.7.6. An exterior landing is not required at the top of the exterior stairs unless the exception to R311.3.2 is applicable for the instance when the door swings over the exterior stairs.

“INTERPRETATION 9:

Section R311.3.3 states: **Storm and Screen** Doors shall be permitted to swing over stairs and landings. Storm and Screen doors are typically attached to an external door. Therefore means of egress restrictions due to swinging over stairs and landing, applicable to the exterior door, DO NOT apply to Storm and Screen Doors.”

Interpretation 9 Code Analysis: Storm and screen doors on exterior doors shall be permitted to swing over exterior stairs and landings.

R311.3.3 Storm and Screen Doors. Storm and screen doors shall be permitted to swing over exterior stairs and landings.

NCDOT Conclusion of Interpretation 9: Storm and screen doors that swing over the stairs and landings of required exterior egress doors and other exterior doors are permitted and do not violate the overall means of egress requirements noted in 2018 NCRC Section R311.

Sincerely,



David B. Rittlinger, PE, LEED AP
Chief Code Consultant
NCDOT-OSFM Engineering & Codes Division

cc: Bridget Herring, Chair – BCC
Mark Matheny, Vice-Chair – BCC
Rob Howard, Chair, Residential Super Committee - BCC
Nathan Childs, Esq., NCDOT, counsel for NC Building Code Council, nchilds@ncdot.gov

ATTACHMENT A



**APPENDIX E
APPEALS
NORTH CAROLINA
BUILDING CODE COUNCIL**

325 North Salisbury Street, Room 5_44
Raleigh, North Carolina 27603
(919) 647-0019

APPEAL TO NCDOI/NCBCC N/A

Hearing Date N/A

GS 153A-374, GS 160A-434

Formal Interpretation by NCDOI

Appeal of Local Decision to NCDOI N/A

GS 143-140, GS 143-141

Appeal of Local Decision to NCBCC N/A

Appeal of NCDOI Decision to NCBCC N/A

APPELLANT Anibal Lavallo PHONE 919-9488224

REPRESENTING Myself

ADDRESS 1005 Crystalwater Dr

CITY Fuquay Varina NC STATE NC ZIP 27526

E-MAIL adlavallo@comcast.net FAX ()

North Carolina State Building Code, Volume 2018 NCRC - Section R311 Means of Egress

REQUEST ONE: Formal Interpretation by NCDOI Appeal of Local Decision to NCBCC
 Appeal of Local Decision to NCDOI Appeal of NCDOI Decision to NCBCC

Type or print. Include all background information as required by the referenced General Statutes and the attached policies. Attach additional supporting information.

Formal Interpretation to Section R311 Means of Egress for 2018 NC Residential Code, only. Specific questions/scenarios and reference code sections attached to email request.

REASON:

Formal interpretation by NCDOI, only. Questions/scenarios where interpretation is requested, are commonly encountered on my day to day inspections.

Signature [Signature] DATE: 3/21/23 N/A APPEAL TO NCDOI/NCBCC FORM 3/14/17

2018 NC Residential Code Section R311 Means of Egress

INTERPRETATION 1:

- A single (Qty 1) **External Egress Door**, meets NC Code requirements. Therefore all other external doors **need not** be considered as external egress door(s), for NC Code compliance.
 - o Reference Section R311.2 and Interpretation

INTERPRETATION 2:

- **A).**- The **Required External Egress Door**, shall have an exterior landing or floor, **NO** exceptions.
 - o Reference Section R311.3 and R311.3.1 and Interpretation
- **B).**- The exterior landing or floor, **for required External Egress Door** shall be:
 - **B1).**- Not more than 1 ½" below the top of the threshold, provided the Door **swings over** the landing or floor.
 - Reference Section R311.3.1 and Interpretation.
 - **B2).**- Not more than 8 ¼" below the top of the threshold, provided the Door **does not swing over** the landing or floor.
 - Reference Section R311.3.1 and Interpretation.
- **C).**- If a landing or floor, for a **required external egress door** is not on grade, access to grade shall be provided, either thru a ramp, per section R311.8 or a stairway per section R311.7. The ramp or stairway is in addition to the landing or floor.
 - o Reference Section R311.3.1 and interpretation.

INTERPRETATION 3:

- For Exterior Doors, ***OTHER THAN Required External Egress Door:***
 - o **A).**- If the door **swings over the stairway** , a floor or landing is required, not more than 8 ¼" below the top of the threshold, **NO** exceptions.
 - Reference Section R311.3.2 and interpretation of exception.
-

- **B).**- If the door does not swing over the stairway, a floor or landing is still required, except if a stairway is located on the exterior side of the door. Therefore exterior door(s) under Interpretation 3B and exception conditions may open directly to an external stairway.
 - Reference Section R311.3.2 and Exception
- **C).**- For exterior doors other than a required external egress door, If external floor or landing (where required), is not on grade, access to grade shall be provided, either thru a ramp, per section R311.8 or a stairway per section R311.7.
 - No Specific Reference, but interpretation of Section R311.3.2 (exception), and intent of the Code.

INTERPRETATION 4:

- A single step between an external door and floor is not considered a Stairway.
 - Reference Sections:
 - NC Residential Code definition of Stairway (One or more Flight of Stairs, Page 24 of NC Code),
 - Definition of Flight (A continuous run of rectangular threads, Page 13 of NC Residential Code).
 - A single step has a single thread, therefore not a continuous run of threads, therefore not a flight of stairs, therefore not a stairway.

INTERPRETATION 5:

- A door communicating the inside of the building to a Garage is prohibited from being an external egress door.
 - Reference R311.1 and interpretation

INTERPRETATION 6:

- A door communicating the inside of the building to a Garage is subject to NC Code requirements for other than required egress door.
 - No specific reference, but intent of the Code.
-

INTERPRETATION 7:

- Is top of threshold, referenced at Sections R311.3.1 and R311.3.2, as indicated at below picture?



INTERPRETATION 8:

Section R311.3.2: For other exterior doors, The exception indicates that a landing is not required, where a stairways is located on the exterior side of the door, provided the door does not swing over the stairways. Next, Section R311.7.6 Landings For Stairways, mandates that “there shall be a floor or landing at the top and bottom of each stairway”. These two requirements appear to contradict each other.

INTERPRETATION: Per Section R102.1, where there is a conflict between a general requirement and an specific requirement, the specific requirement shall be applicable. Section R311.3.2 is specific, therefore a landing is not required, for other exterior doors, where a stairways is located on the exterior side of the door, provided the door does not swing over the stairways.

INTERPRETATION 9:

Section R311.3.3 states: Storm and Screen Doors shall be permitted to swing over stairs and landings. Storm and Screen doors are typically attached to an external door. Therefore means of egress restrictions due to swinging over stairs and landing, applicable to the exterior door, DO NOT apply to Storm and Screen Doors.
