

**NC Department of Insurance
Office of State Fire Marshal, Engineering Division**

RE: Appeal of the March 6, 2023,)
 Denial of Proposed Alternate)
 Method by the City of)
 Greensboro Building Inspection)
 Department

NCDOI DECISION

In accordance with N.C.G.S. § 160D-1127, David Chambless, Executive Vice-President and Owner, representing United Realty Group has appealed the City of Greensboro Development Services Division decision regarding the 2018 edition of the North Carolina Building Code and the use of a fire-resistant rated curtain as an alternate method to fire-resistant rated fixed glazing in a 1-hour rated fire partition required for an egress corridor and an adjacent side swinging egress door.

N.C.G.S. § 160D-1127 allows appeals from any order, decision, or determination by a member of a local inspection department pertaining to the State Building Code or other State building laws to the Commissioner of Insurance or his designee.

PARTIES

Appellant: United Realty Group, Inc.
 620 Green Valley Road, Suite 304
 Greensboro, NC 27408

Appellee: City of Greensboro
 Development Services Division
 Engineering and Inspections Department
 PO Box 3136
 Greensboro, NC 27402-3136

BACKGROUND

On February 2, 2023, the appellant’s architect sent an email to Charlie Johnson of the NC Department of Insurance (“NC Department of Insurance”) requesting the department determine if the proposed Fire Curtain Technologies, FC60 Fire Curtain (“curtain”) was acceptable for use as a 1-hour rated corridor wall. Mr. Johnson then forwarded that request on to the department’s Chief Building Code Consultant, Pak Yip. Mr. Yip then determined that the curtain was an acceptable alternate method

as it met the requirements of the 2024 NC Building Code, which the NC Building Code Council has started the process to adopt.

On February 16, 2023 the appellant's architect then sent a letter to the appellee requesting the use of the curtain as an alternate method, based on the February 2, 2023, response from the NC Department of Insurance.

On March 1, 2023, the appellant sent the appellee revised architectural drawings that utilized the curtain while the previous drawings had shown fire-resistant rated glazing and glazed egress door. The proposed curtain was submitted as an alternate method to the original design.

On March 6, 2023, the appellee denied the appellant's request to use the curtain as an alternate method to a 1-hour fire-resistant rated corridor wall.

On March 10, 2023, the appellant appealed the appellee's decision to deny the use of the curtain to NC Department of Insurance.

On March 10, 2023, after receiving the appeal from the appellant, NC Department of Insurance requested applicable floor plans and life-safety plans from the appellant.

On March 28, 2023, the NC Department of Insurance received the applicable floor plans and life-safety plans from the appellant's architect.

ISSUE RAISED IN APPEAL

Appellants' appeal reads, in part, as follows:

"We are appealing the decision of the City of Greensboro denial of the alternative fire protection fire curtain system as permitted under N.C. Building Code alternate method using, FC60 Fire Curtains 1 hr. rated with steel guides."

FINDINGS

Based on information submitted by the appellant, the undersigned makes the following findings of fact:

1. The appellant's proposed office space is to be located in an existing building.
2. The appellant's floor plan sheet A-1 dated March 22, 2022, indicates that the door 301 is the only means of egress from the appellants proposed office area suite 304. It also notes that suite 304 is a single tenant space where multiple tenants are located on the same floor as the appellant.
3. The appellant's Detail sheet A-3 dated February 16, 2023, indicates that the proposed curtain will drop in front of door 301. The sheet indicates that the curtain is electrically powered and

contains a battery backup power source that will allow 4 hours of operation after the failure of primary power.

4. Life-Safety Plan LS-1, provided by the appellant's architect, indicates a calculated occupant load for suite 304 of 16 occupants. This calculation corresponds with the requirement of NC Building Code Table 1004.1.2 "Maximum Floor Area Allowance per Occupant" of 100sf/occupant for "Business areas".

5. 2018 NC Administrative Code and Policies Subsection 105.1 "Approval" of Section 105 "Alternate Material, Design or Methods" states:

"The provisions of this code are intended to allow the use of any alternate material, design or method of construction, provided that the alternate has been approved by the code enforcement official. An alternate material, design or method of construction shall be approved where the code enforcement official finds that the proposed alternative material, design or method of construction complies with the intent and provisions of the technical codes."

6. 2018 NC Existing Building Code Section 101.4 "Applicability" states:

"This code shall apply to the repair, alteration, change of occupancy, addition and relocation of existing buildings, regardless of occupancy, subject to the criteria of Section 101.4.1 and 101.4.2."

7. 2018 NC Existing Building Code Chapter 5 "Classification of Work" Section 504.1 "Scope" for alteration Level 2 states:

"Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment."

8. 2018 NC Existing Building Code Chapter 8 "Alterations – Level 2" Section 801.3 "Compliance" states in part:

"All new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code."

9. The proposed 2024 NC Building Code Section 716.4, which the NC Building Code Council has approved to move forward through the code adoption process, reads as follows:

"716.4 Fire protective curtain assembly. *Approved fire protective curtain assemblies* shall be constructed of any materials or assembly of component materials tested without hose stream in accordance with UL 10D, and shall comply with the Sections 716.4.1 through 716.4.3

716.4.1 Label. *Fire protective curtain assemblies* used as opening protectives in fire-rated walls and *smoke partitions* shall be *labeled* in accordance with Section 716.2.9.

716.4.2 Smoke and draft control. *Fire protective curtain assemblies* used to protect openings where smoke and draft control assemblies are required shall comply with Section 716.2.1.4.

716.4.3 Installation. *Fire protective curtain assemblies* shall be installed in accordance with NFPA 80.”

10. The proposed 2024 NC Building Code Section 716.2.1.4, which the NC Building Code Council has approved to move forward through the code adoption process and is referenced in Section 716.4.1, reads as follows:

“716.2.1.4 Smoke and draft control. *Fire door* assemblies that serve as smoke and draft control assemblies shall be tested in accordance with UL 1784.”

11. 2018 NC Building Code Section 1020.1 “Construction” states in part:

“Corridors shall be fire-resistant rated in accordance with Table 1020.1. The corridor walls shall comply with Section 708.”

12. 2018 NC Building Code Table 1020.1 requires 1-hour fire-resistant rated enclosure for Group B office occupancies.

13. 2018 NC Building Code Section 708.6 “Openings” states:

“Openings in a fire partition shall be provided in accordance with Section 716.”

14. 2018 NC Building Code Table 716.5 “Opening Fire Protection Assemblies, Ratings and Markings” requires a minimum fire-resistance rating of 20-minutes for 1-hour rated corridor walls.

15. 2018 NC Building Code Section 1010.1.2 “Door swing” states in part:

“Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.

6. In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies complying with Section 1010.1.4.3.”

CONCLUSIONS

Based on the foregoing findings of fact, the undersigned makes the following conclusions:

1. 2018 NC Administrative Code Sections 105 “Alternate Material, Design or Methods” subsection 105.1 “Approval” applies and gives the local code enforcement official authority to determine acceptance of an alternate material, design or method of construction. Section 202.9.1 of that same code then allows the determination of a local code enforcement official regarding acceptance

of alternate materials, design or methods of construction to be appealed to the Commissioner of Insurance within ten days of a determination by the local code enforcement official.

2. Because the NC Building Code Council has begun the adoption process of the 2024 NC Building Code, which includes Section 716.4 “Fire protective curtain assembly” and the fact that the section is not dependent on any other changes within the 2024 NC Building Code, the undersigned concludes that the curtain meets the “intent” of the council, in the context of the North Carolina Administrative Code and Policies Section 105.1 for opening protection, since the curtain is UL-10D 1-hour fire-resistance rated and UL-1784 listed for smoke and draft control.

3. However, the 2018 NC Existing Building Code 101.4 “Applicability” requires the proposed work to comply with the 2018 NC Building Code because the work is a Level 2 alteration and the proposed curtain is new construction.

4. The calculated occupant load of the proposed space is greater than ten occupants. Thus, the proposed curtain does not comply with 2018 NC Building Code Section 1010.1.2 “Door swing”. Further, the proposed curtain is not side swinging or horizontal sliding, it does not comply with Section 1010.1.2 for egress. Because the curtain is not side swinging it cannot be used in the egress path of suite 304.

APPEAL DECISION

Based on the above findings and conclusions:

The appellee’s decision regarding denial of the use of “Fire Curtain Technologies, FC60 Fire Curtain” at the location of a required means of egress opening is UPHELD.

This 4th day of April 2023.



Carl Martin, RA
Deputy Commissioner
Division Chief of Engineering
North Carolina Department of Insurance

FURTHER APPEAL RIGHTS

The appellant and appellee have the right to appeal this decision to the NC Building Code Council. Please refer to N.C.G.S § 160D-1114 and the NC Administrative Code and Policies Section 202.9.2 for further appeal rights. In accordance with N.C.G.S § 143-141 you have 30 days in which to appeal this decision to the NC Building Code Council.

Cc:

Mike Lewis, Development Services Manager, City of Greensboro

Nathan Childs, Special Deputy Attorney General – NCBC

Erin Gibbs, Assistant General Counsel, NCDO