



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

October 17, 2022

Mr. Kenneth Michael
Womble Bond Dickinson (US) LLP
One West Fourth Street
Winston-Salem, NC 27101

RE: 2018 NC Building Code Section 1011.5.4 Dimensional uniformity

Mr. Michael:

This letter is in response to your request for formal interpretation dated September 28, 2022, that was received in NCDOI by email on September 28, 2022. Your request for formal interpretation states in part:

“Request No. 1: The NCDOI 9/23/22 Interpretation did not explain how stage steps W constitute a code compliant *Means of Egress* in contradiction to the NCDOI 1/6/22 Interpretation. Stage Steps W include adjacent risers that exceed the allowed maximum tolerance from the smallest to the greatest riser height of 3/8 inch (NC Bldg Code 1011.5.4). Are stage Steps W code compliant as a *Means of Egress*, as well as for purposes of accessibility, general use by the public, and elsewhere in the 2018 NC Building Code?

Request No. 2: The NCDOI 9/23/22 Interpretation did not render any interpretation as to code compliance regarding back stairway Steps A, G, H and I, because they were not included in the WCCC 8/02/22 Request for Interpretation (they were deemed non-code compliant in the NCDOI 9/23/22 Interpretation). At least one side of back stairway Steps A, G, H and I include stair runs with risers that exceed the allowed maximum tolerance from the smallest to the greatest riser height of 3/8 inch (including up to 7/8 inches). Are back stairway Steps A, G, H and I, code compliant as a *Means of Egress*, as well as for purposes of accessibility, general use by the public, and elsewhere in the 2018 NC Building Code?

Request No. 3: It appears the underlying basis of the WCCC 8/02/22 Request for Interpretation and the resultant NCDOI 9/23/22 Interpretation is only in regards to code compliance of the referenced steps *in the context of Means of Egress*. To the extent any of collective Steps A through W on the Project are not Means of Egress, for purposes of accessibility, general use by the public and otherwise, which, if any, risers and runs of steps are not code compliant based on Exhibit C to RCCC 12/16/21 Request for Interpretation – As-Built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC (with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams)?

Remarks:

Code sections noted in this letter are referring to the 2018 edition of the NC Building Code unless otherwise noted.

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

Code Analysis:

Means of egress from buildings or portions thereof shall comply with the provisions of Chapter 10 Means of Egress.

1001.3 Applicability. The general requirements specified in Sections 1003 through 1015 shall apply to all three elements of the *means of egress* system, in addition to those specific requirements for the *exit access*, the *exit* and the *exit discharge* detailed elsewhere in this chapter.

Chapter 2 defines relative terms related to egress as follows:

MEANS OF EGRESS. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a *public way*. A means of egress consists of three separate and distinct parts: the *exit access*, the *exit* and the *exit discharge*.

EXIT ACCESS. That portion of a *means of egress* system that leads from any occupied portion of a building or structure to an *exit*.

EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, *interior exit stairways and ramps*, *exit passageways*, *exterior exit stairways and ramps* and *horizontal exits*.

EXIT DISCHARGE. That portion of a *means of egress* system between the termination of an *exit* and a *public way*.

[A] PUBLIC WAY. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

Comments: These sections and definitions are the starting point for evaluating the minimum requirements for emergency evacuation of all occupants from buildings, portions thereof and sites to a safe location.

1028.4 Egress Courts. *Egress courts* serving as a portion of the *exit discharge* in the *means of egress* system shall comply with the requirements of Sections 1028.4.1 and 1028.4.2.

EGRESS COURT. A *court* or *yard* which provides access to a *public way* for one or more exits.

YARD. An open space, other than a *court*, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated.

Comments: Egress courts such as courts and yards are permitted by code to be used for exit discharge.

1018.1 General. *Aisles and aisle accessways serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles or aisle accessways shall be provided from all occupied portions of the exit access that contain seats, tables, furnishings, displays and similar fixtures or equipment. The minimum width or required capacity of aisles shall be unobstructed.*

Exception: Encroachments complying with Section 1005.7.

Comments: A yard can be utilized for exit discharge if the yard is at grade level and is not within the confines of an enclosed building. If exit discharge is accomplished from ends of each of the aisles and accessways, stairs A, G, H and I are no longer required to be used for exit access from the aisles.

Stair treads and risers shall be of uniform shape and size.

1011.5.4 Dimensional Uniformity. *Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs. The greatest winder tread depth at the walkline within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).*

Exceptions:

1. *Stairways connecting stepped aisles to cross aisles or concourses shall be permitted to comply with the dimensional nonuniformity in Section 1029.13.2.*
2. *Consistently shaped winders, complying with Section 1011.5, differing from rectangular treads in the same flight of stairs.*
3. *Nonuniform riser dimension complying with Section 1011.5.4.1.*

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

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

STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

Comments: Stairways used for means of egress shall be uniform shape and size.

Conclusions: *If stair W is intended to be used for means of egress, its stair treads and risers shall be of uniform shape and size as required by 1011.5.4. Since a code-compliant means of egress system is provided via each end of the seating rows to a yard at grade level, stairs A, G, H and I are considered landscape steps. Landscape steps are not required to comply with the means of egress requirements of the 2018 NC Building Code. As per this formal interpretation and the NCDOT Formal Interpretation dated 9/23/22, landscape steps A through N are not required to comply with the means of egress requirements of the 2018 NC Building Code. As per the NCDOT Formal Interpretation dated 9/23/22, steps P through V*

are considered means of egress steps and shall comply with the means of egress requirements of the 2018 NC Building Code unless a barrier is provided to prevent use of those steps for egress from the stage.

Please call or email if you have comments or questions.

Sincerely,

A handwritten signature in black ink that reads "D.B. Rittlinger". The signature is written in a cursive, flowing style.

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

cc: File
Bridget Herring, Chair – BCC
Mark Matheny, Vice-Chair - BCC
Michael Ali, Chair, Commercial Super Committee – BCC
Terence Friedman, Assistant Attorney General, Insurance Section - NCDOJ

ATTACHMENT A

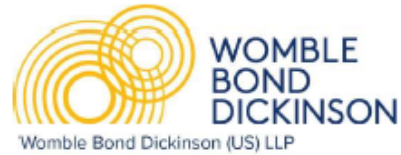
womblebonddickinson.com

September 28, 2021

Via Electronic Mail

Mike.causey@ncdoi.gov

Marshal Mike Causey
Commissioner of Insurance
Engineering Section of the North Carolina Department of Insurance
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Kenneth R. Michael, Esquire
Partner
Direct Dial: 336-721-3644
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Re: **Request for Formal Interpretation (N.C. Gen. Stats. § 160D-1127)**
Rowan Cabarrus Community College Outdoor Classroom Phase II (the "Project")
1333 S. Jake Alexander Blvd., Salisbury, NC

Commissioner Causey,

Womble Bond Dickinson is counsel for Rowan Cabarrus Community College ("RCCC"), submitting this second Request for Formal Interpretation ("RCCC 9/28/22 Request for Interpretation").

On August 2, 2022, W.C. Construction Company, LLC ("WCCC") submitted a Request for Formal Interpretation ("WCCC 8/02/22 Request for Interpretation") concerning the referenced Project, to which NCDOI issued its response on September 23, 2022 ("NCDOI 9/23/22 Interpretation") (see [Appendix #1](#)) concluding:

"Since a code-compliant *Means of Egress* system is provided via each end of the seating rows to a yard at grade level, stairs B thru F and J thru N are considered landscape steps. Landscape steps are not required to comply with the *Means of Egress* requirements of the 2018 NC Building Code. A code compliant *Means of Egress* system from the stage is provided at stairs O and W. With the addition of a barrier along the curved portion of the stage at stairs P thru V, egress from the stage is prevented from stairs P thru V. Since these steps are no longer used for egress, they become decorative steps and are not regulated by the 2018 NC Building code."

Therefore, in substance:

1. Aisle Steps B through F and J through N are "landscape steps" that are not required to comply with the *Means of Egress* requirements of the 2018 NC Building Code
2. Stage Steps O and W are a code compliant *Means of Egress*, and Stage Steps P through V with the addition of a barrier can become decorative steps that would not be regulated by the 2018 NC Building Code.

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The NCDOI 9/23/22 Interpretation (a) did not explain how stage Steps W were a code compliant *Means of Egress* in contradiction to the NCDOI 1/6/22 Interpretation (see [Footnote 1](#)¹ for background); and (b) did not render any interpretation as to code compliance concerning back stairway Steps A, G, H, and I, because they were not included in the WCCC 8/02/22 Request for Interpretation (they were deemed non-code compliant in the NCDOI 9/23/22 Interpretation, based on NC Bldg Code § 1011.5.4).

Request No. 1: The NCDOI 9/23/22 Interpretation did not explain how stage Steps W constitute a code compliant *Means of Egress* in contradiction to the NCDOI 1/6/22 Interpretation. Stage Steps W include adjacent risers that exceed the allowed maximum tolerance from the smallest to the greatest riser height of 3/8 inch (NC Bldg Code § 1011.5.4). Are stage Steps W code compliant as a *Means of Egress*, as well as for purposes of accessibility, general use by the public, and elsewhere in the 2018 NC Building Code?

Request No. 2: The NCDOI 9/23/22 Interpretation did not render any interpretation as to code compliance regarding back stairway Steps A, G, H, and I, because they were not included in the WCCC 8/02/22 Request for Interpretation (they were deemed non-code compliant in the NCDOI 9/23/22 Interpretation). At least one side of back stairway Steps A, G, H, and I include stair runs with risers that exceed the allowed maximum tolerance from the smallest to the greatest riser height of 3/8 inch (including up to 7/8 inches). Are back stairway Steps A, G, H, and I, code compliant as a *Means of Egress*, as well as for purposes of accessibility, general use by the public, and elsewhere in the 2018 NC Building Code?

Request No. 3: It appears the underlying basis of the WCCC 8/02/22 Request for Interpretation and the resultant NCDOI 9/23/22 Interpretation is only in regards to code compliance of the referenced steps in the context of *Means of Egress*. To the extent any of collective Steps A through W on the Project are not *Means of Egress*, for purposes of accessibility, general use by the public and otherwise, which, if any, risers and

¹ **Background.** For some background, on December 16, 2021, Womble Bond Dickinson submitted on behalf of RCCC a Request for Formal Interpretation (“RCCC 12/16/21 Request for Interpretation”) of the Rowan County Building Inspection Department’s interpretation of the NC State Building Code relating to the as-built construction compliance of steps and stairs at the Rowan Cabarrus Community College Outdoor Classroom Phase II project in Salisbury, NC (see [Attachment #A to Appendix #2](#)). On January 6, 2022, NCDOI issued its response to RCCC 12/16/21 Request for Interpretation, in which NCDOI concluded (“NCDOI 1/6/22 Interpretation”) (see [Appendix #2](#)) in substance the following (cross referencing Exhibit D to RCCC 12/16/21 Request for Interpretation - Location Key for Stair Runs labeling on the as-built spot elevation survey all the runs of stairs on the project with letters A-W):

1. For back stairway Steps A, G, H and I - the allowed maximum tolerance from the smallest to the greatest riser height is 3/8 inch (NC Bldg. Code § 1011.5.4). All of these are not compliant.
2. For aisle Steps B through F and J through N, the riser height uniformity tolerance is 3/16 inch. All of these are not compliant (NC Bldg. Code § 1029.13.2.2.1).
3. For stage Steps O through W, the allowed maximum tolerance from the smallest to the greatest riser height is 3/8 inch (NC Bldg. Code § 1011.5.4).
 - o Stage Steps O and P are compliant.
 - o Stage Steps Q, R and W are not compliant.
 - o Stage Steps S, T and V are not compliant, but could be made compliant if the bottom riser is marked as required by Section 1011.5.4.1.
 - o Stage Steps U are not compliant, but could be made compliant if the top riser is marked as required by Section 1011.5.4.1.

On February 4, 2022, WCCC filed a Notice of Appeal of the NCDOI 1/6/22 Interpretation (“WCCC 2/4/22 Appeal”) with the NC Building Code Council. As of the date of this RCCC 9/28/22 Request for Interpretation, the NC Building Code Council has not issued its ruling on the WCCC 2/4/22 Appeal.

runs of steps are not code compliant based on Exhibit C to RCCC 12/16/21 Request for Interpretation - As-built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC (with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams)?²

RCCC appreciates your consideration of the foregoing requests and thanks you in advance for your assistance. RCCC has been attempting to mitigate, complete and use for its intended purposes the subject Project since receiving the NCDOI 1/6/22 Interpretation over eight and a half months ago, but have been delayed by the WCCC 2/4/22 Appeal and subsequent WCCC 8/02/22 Request for Interpretation – both processes of which we acknowledge is within WCCC's rights albeit slow and belated. In this context, we respectfully request that anything NCDOI can do to expedite the processing of this RCCC 9/28/22 Request for Interpretation would be greatly appreciated.

Please do not hesitate to let us know if you need any additional documents or information. Thank you for your prompt attention to this matter.

Sincerely,

WOMBLE BOND DICKINSON (US) LLP



Kenneth R. Michael

KRM: kwb

cc: Terence Friedman, Esq., NCDOJ, counsel for NCDOI, TFriedman@ncdoj.gov
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² Please refer to separate attachment [4] to email transmitting this RCCC 9/28/22 Request for Interpretation for 2MB File of this Exhibit C.

Appendices:³

Appendix #1	NCDOI 9/23/22 Interpretation (separate attachment to email)	
Attachment A	WCCC 8/02/22 Request for Interpretation	
Exhibit A	Location Key for Stair Runs that identifies the runs of stairs on the projects with letters A-W.	
Appendix #2:	NCDOI 1/6/22 Interpretation (separate attachment to email)	
Attachment A	RCCC 12/16/21 Request for Interpretation	
Exhibit A	Inspection Worksheet (INSP-420557-2021) by Scott Lowder of the Rowan County Building Inspection Department, dated December 7, 2021;	
Exhibit B	December 15, 2021 11:44 AM clarification email from Thomas O’Kelly, Director of Rowan County Building Inspections;	
Exhibit C	As-built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC, with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams; (separate attachment [4] to email transmitting <i>RCCC 9/28/22 Request for Interpretation</i>) and	
Exhibit D	Location Key for Stair Runs labeling on the as-built spot elevation survey all the runs of stairs on the project with letters A-W.	
Attachment B	Amphitheater Seating Elevation, by McAdams, dated December 28, 2021	

³ Note, most but not all the documents attached to Appendix #1 and Appendix #2 listed below are pasted into this letter on the following pages; however, with my email transmitting this RCCC 9/28/22 Request for Interpretation.

Appendix #1
NCDOI 9/23/22 Interpretation



ENGINEERING

Tel 919.647.0000 Fax 919.715.0067

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

September 23, 2022

Mr. Andrew L. Chapin
Connor, Gwyn, Schenck, PLLC Attorneys at Law
306 East Market Street, Suite One
Greensboro, NC 27401
P.O. BOX 20744
Greensboro, NC 27420

RE: 2018 NC Building Code Section 1001.1 General and 1003.1 Applicability

Mr. Chapin:

This letter is in response to your request for formal interpretation dated August 2, 2022, that was received in NCDOI by email on August 2, 2022. Your request for formal interpretation states:

"WCCC submits this request seeking a formal interpretation in connection with certain steps/stairs constructed on the project. For location reference purposes, please see the attached Exhibit "A,"

Location Key for Stair Runs, that identifies the runs of stairs on the project with letters A-W.

Request No. 1: Whether the steps in the aisles labeled B through F and J

through N may be considered landscape steps?

Request No. 2: Without necessarily agreeing that any steps associated with the stage and labeled O through W are considered egress steps that may not comply with the building code (WCCC expressly reserves the right to argue otherwise), to the extent that such steps are considered egress steps that do not comply with building code, can the steps be brought into compliance with the building code with the use of a barrier?"

Remarks:

Code sections noted in this letter are referring to the 2018 edition of the NC Building Code unless otherwise noted.

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

Code Analysis:

Means of egress from buildings or portions thereof shall comply with the provision of Chapter 10 Means of Egress.

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction

OFFICE OF STATE FIRE MARSHAL

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and arrangement of *means of egress* components required to provide an *approved means of egress* from structures and portions thereof.

1001.3 Applicability. The general requirements specified in Sections 1003 through 1015 shall apply to all three elements of the *means of egress* system, in addition to those specific requirements for the *exit access*, the *exit* and the *exit discharge* detailed elsewhere in this chapter.

Chapter 2 defines relative terms related to egress as follows:

MEANS OF EGRESS. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a *public way*. A means of egress consists of three separate and distinct parts: the *exit access*, the *exit* and the *exit discharge*.

EXIT ACCESS. That portion of a *means of egress* system that leads from any occupied portion of a building or structure to an *exit*.

EXIT. That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the level of *exit discharge*, interior exit stairways and ramps, exit passageways, exterior exit stairways and ramps and horizontal exits.

EXIT DISCHARGE. That portion of a *means of egress* system between the termination of an *exit* and a *public way*.

[A] PUBLIC WAY. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

Comments: These sections and definitions are the starting point for evaluating the minimum requirements for emergency evacuation of all occupants from buildings, portions thereof and sites to a safe location.

Egress courts such as courts and yards are permitted by code to be used for exit discharge.

1028.4 Egress Courts. Egress courts serving as a portion of the *exit discharge* in the *means of egress* system shall comply with the requirements of Sections 1028.4.1 and 1028.4.2.

EGRESS COURT. A court or yard which provides access to a *public way* for one or more exits.

YARD. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated.

1028.4.1 Width or Capacity. The required capacity of egress courts shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall be not less

than 36 inches (914 mm) in width. The required capacity and width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

Exception: Encroachments complying with Section 1005.7.

Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. The width of the egress court shall not be less than the required capacity.

1028.4.2 Construction and Openings. Where an egress court serving a building or portion thereof is less than 10 feet (3048 mm) in width, the egress court walls shall have not less than 1-hour fire-resistance-ratio of construction for a distance of 10 feet (3048 mm) above the floor of the egress court. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour.

Exceptions:

1. Egress courts serving an occupant load of less than 10.
2. Egress courts serving Group R-3.

1028.5 Access to a public way. The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate not less than 5 square feet (0.46 m²) for each person.
2. The area shall be located on the same lot not less than 50 feet (15 240 mm) away from the building requiring egress.
3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

1018.1 General. Aisles and aisle accessways serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles or aisle accessways shall be provided from all occupied portions of the exit access that contain seats, tables, furnishings, displays and similar fixtures or equipment. The minimum width or required capacity of aisles shall be unobstructed.

Exception: Encroachments complying with Section 1005.7.

Comments: A yard can be utilized for exit discharge if the yard is at grade level and is not within the confines of an enclosed building. If exit discharge is accomplished from ends of each of the aisles, aisle accessways are no longer required to be used for exit access to the aisles.

Conclusions: *Since a code-compliant means of egress system is provided via each end of the seating rows to a yard at grade level, stairs B thru F and J thru N are considered landscape steps. Landscape steps are not required to comply with the means of egress requirements of the 2018 NC Building Code. A code-compliant means of egress system from the stage is provided at stairs O and W. With the addition of a barrier along the curved portion of the stage at stairs P thru V, egress from the stage is prevented from stairs P thru V. Since these steps are no longer used for egress, they become decorative steps and are not regulated by the 2018 NC Building code.*

Please call or email if you have comments or questions.

Sincerely,



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

cc: File
Bridget Herring, Chair – BCC
Mark Matheny, Vice-Chair - BCC
Michael Ali, Chair, Commercial Super Committee – BCC
Terence Friedman, Assistant Attorney General, Insurance Section - NCDOL

Attachment A
(to Appendix #1 - NCDOT 9/23/22 Interpretation)
WCCC 8/02/22 Request for Interpretation

ATTACHMENT A



**CONNER
GWYN
SCHENCK PLUS**
ATTORNEYS AT LAW

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Tel: 336.336.0100 Fax: 336.336.0101

August 2, 2022

Via Electronic Mail Only
Mike.Causey@ncdot.gov

Marshal Mike Causey
Commissioner of Insurance
Engineering Section of the North Carolina Department of Insurance
430 North Salisbury Street
1201 Mail Service Center
Raleigh, NC 27609-1201

Re: Request for Formal Interpretation
Rowan Cabarrus Community College Outdoor Classroom Phase II
1333 S. Jake Alexander Blvd., Salisbury, NC

Dear Commissioner Causey,

My firm and I represent W.C. Construction Company, LLC ("WCCC"), the original general contractor on the referenced project. WCCC submits this request seeking a formal interpretation in connection with certain sloped stairs constructed on the project. For location reference purposes, please see the attached Exhibit "A," Location Key for Stair Runs, that identifies the runs of stairs on the project with letters A-W.

Request No. 1: Whether the steps in the aisles labeled B through F and J through N may be considered landscape steps?

Request No. 2: Without necessarily agreeing that any steps associated with the stage and labeled O through W are considered egress steps that may not comply with the building code (WCCC expressly reserves the right to argue otherwise), to the extent that such steps are considered egress steps that do not comply with building code, can the steps be brought into compliance with the building code with the use of a barrier?

WCCC and I appreciate your consideration of the foregoing requests and thank you in advance for your assistance. Please let me know if any further information is required in connection with this request.

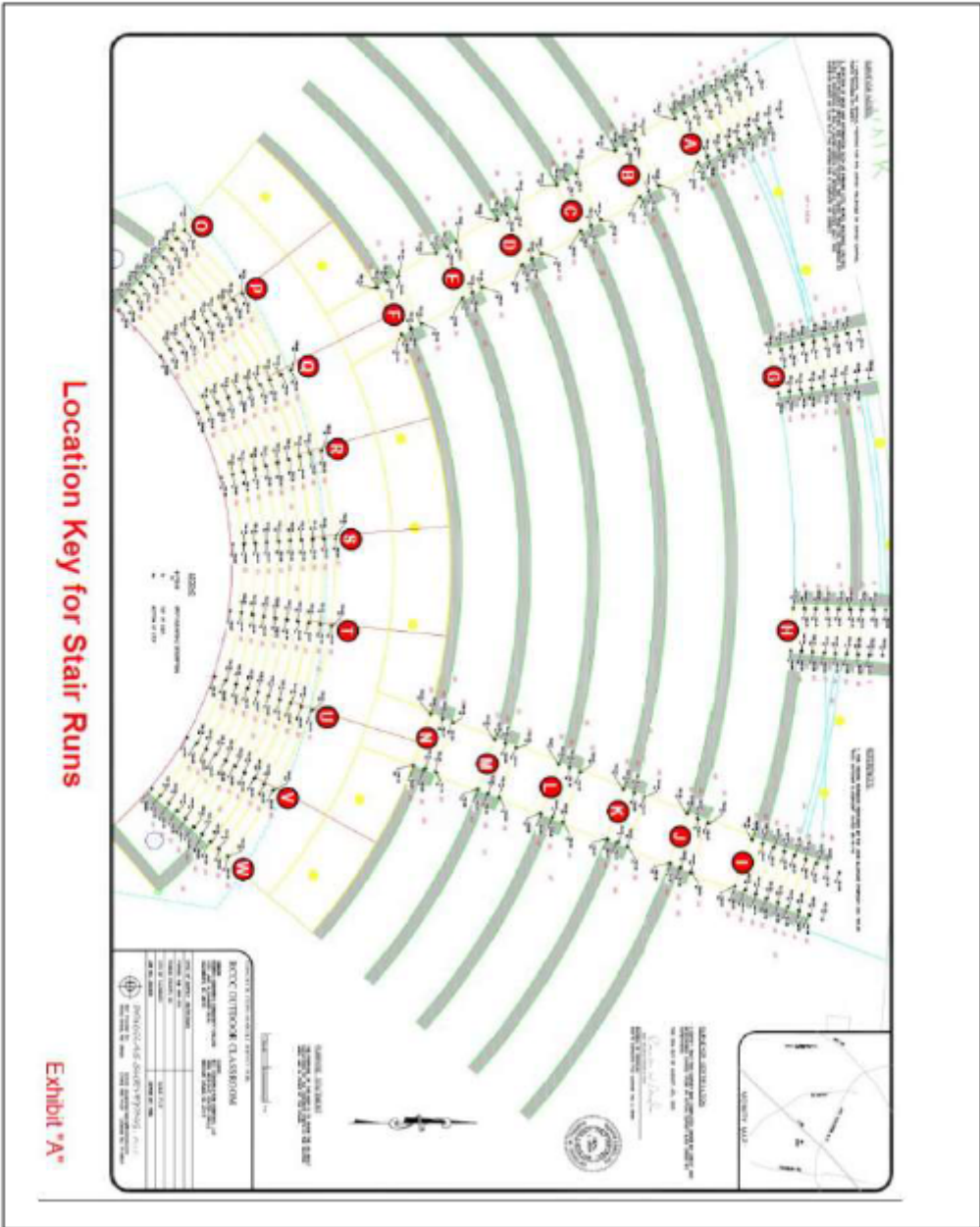
Sincerely,

Andrew L. Chapin

Attachment



Exhibit A
(to Attachment A – WCCC 8/02/22 Request for Interpretation)
Location Key for Stair Runs that identifies the runs of stairs on project with letters A-W



*For remainder of attachments to NCDOI 9/23/22 Interpretation, see separate attachment [2]
to email transmitting the RCCC 9/28/22 Request for Interpretation.*

Appendix #2
NCDOI 1/6/22 Interpretation



ENGINEERING

Tel 919.647.0000 Fax 919.715.0067

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

January 6, 2022

Kenneth Michael
Womble Bond Dickinson (US) LLP
One West Fourth Street
Winston-Salem, NC 27101

RE: Stepped Aisle and Stairway Riser Uniformity
2018 NCBC, Sections 1029.13.2.2.1 and 1011.5.4

Mr. Michael:

This letter is in response to your request for formal interpretation dated December 16, 2021 that was received in NCDOI by email on that same date. Your request for formal interpretation states:

"Please confirm the following:

1. Stepped Aisles

- a. Please identify which runs of steps labeled A-W on Exhibit D are "Stepped Aisles".
- b. To the extent there are Stepped Aisles on the Project, the applicable Code reference is the following:

1029.13.2.2.1 Construction Tolerances

"The tolerance between adjacent risers on a stepped aisle that were designed to be equal height shall not exceed 3/16 inch (4.8 mm). Where the stepped aisle is designed in accordance with Exception 1 of Section 1029.13.2.2, the stepped aisle shall be constructed so that each riser of unequal height, determined in the direction of descent, is not more than 3/8 inch (9.5 mm) in height different from adjacent risers where stepped aisle treads are less than 22 inches (560 mm) in depth and 3/4 inch (19.1 mm) in height different from adjacent risers where stepped aisle treads are 22 inches (560 mm) or greater in depth."

- c. Even though the tolerance for adjacent riser heights is 3/16 Inch per Section 1029.13.2.2.1, a tolerance of 3/8inch is deemed to be in compliance with Code.
2. Stairways
- a. Please identify which runs of steps labeled A-W on Exhibit D are "Stairways."
 - b. To the extent there are Stairways on the Project, please confirm the applicable Code reference is Section 1011.5.4 Dimension Uniformity, to which: "Stair treads and risers shall be uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and the smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs;" with Exception 1 whereby: "stairways connecting stepped aisles to

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cross aisles or concourses shall be permitted to comply with the dimensional nonuniformity in Section 1029.13.2.”

3. Curved Steps at Stage (labeled O through W on Exhibit D)
 - a. Based on as-built survey (Exhibit C), please identify which runs of steps are not in compliance with 2018 NC Building Code.
 - b. For purposes of Code compliance, is it proper to assess all runs labeled O through W on Exhibit D, or just the ends with handrail (labeled O through W on Exhibit D)?”

Remarks:

Code sections noted in this letter are referring to the 2018 edition of the NC Building Code unless otherwise noted.

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

Attachment B is a drawing of the section through the site as requested by Carl Martin on December 28, 2021. The drawing was provided on December 30, 2021.

Attachment C is a photograph of the seating area of the “as-built” condition taken from the viewpoint of the performance area. The photo is of the left side of the seating area but portrays the condition of the entire seating area.

Attachment D is a photograph of the performance area taken from the viewpoint of the seating area.

Attachment E is a photograph of the walkway passing behind the seating area and providing access to the seating area as well a path of travel not related to the seating area. The seating (steps) seen to the left of the walkway appear to have been existing prior to the project in question.

3/16 inch equals 0.015625 feet.

3/8 inch equals 0.03125 feet.

Code Analysis:

Chapter 2 defines “Aisle” as follows:

Aisle. An unenclosed exit access component that defines and provides a path of egress travel.

Comment: Normally all paths of egress within an assembly seating area would be an aisle.

Chapter 2 defines “Exit Access” as follows:

Exit Access. That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.

Comment: Aisles used for egress would be exit access aisles. Steps A through N on Exhibit C are, therefore, “stepped aisles” and Section 1029.13.2 will apply.

The text of Section 1029.13.2.2.1 is included in the request for formal interpretation shown above.

Comments: 1029.13.2.2.1 references Section 1029.13.2.2, exception #1.

Section 1029.13.2.2 reads in part as follows:

1029.13.2.2 Risers. Where the gradient of stepped aisles is to be the same as the gradient of adjoining seating areas, the riser height shall be not less than 4 inches (102 mm) nor more than 8 inches (203 mm) and shall be uniform within each flight.

Exceptions:

1. Riser height nonuniformity shall be limited to the extent necessitated by changes in the gradient of the adjoining seating area to maintain adequate sightlines. Where nonuniformities exceed 3/16 inch (4.8 mm) between adjacent risers, the exact location of such nonuniformities shall be indicated with a distinctive marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform risers. Such stripe shall be not less than 1 inch (25 mm), and not more than 2 inches (51 mm), wide. The edge marking stripe shall be distinctively different from the contrasting marking stripe.

Comments: Based on Attachment B below it does not appear that a 3/8 inch riser tolerance is needed for this site to "maintain adequate sightlines".

Chapter 2 defines "Stairway" as follows:

Stairway. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

Comment: The steps from the performance area to the cross aisle are for egress or convenience and therefore qualify as an exit access stairway and not a "stepped aisle". Steps A, G, H and I provide access from a walkway down to the seating area and therefore appear to also be exit access stairways.

Section 1011.5 states in part:

1011.1 General. Stairways serving occupied portions of a building shall comply with the requirements of Sections 1011.2 through 1011.13.

Comment: Steps labeled A, G, H, I and O through W on Exhibit D would qualify as stairways and require compliance with Section 1011.5.

Section 1011.5.4 states in part:

1011.5.4 Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs.

Comment: Steps labeled O through W on Exhibit D can have a tolerance of 3/8 inch between the largest and smallest riser. With a curved stair the intent is to meet the uniformity in any likely path of travel which, in the case of the plan shown in Exhibit D of Attachment A, would be any path directly down the steps at a 90 degree angle to the top or bottom landings.

Conclusions:

- 1a. Steps labeled B through F and J through N on Exhibit D appear to be "stepped aisles".
- 1b. Section 1029.13.2.2.1 is the correct reference for addressing allowed riser height tolerance for stepped aisles.

- 1c. Section 1029.13.2.2.1 limits the riser height uniformity tolerance for stepped aisles to 3/16 inch unless an increase to 3/8 inch is required to "maintain adequate sightlines" for adjacent seating served by the stepped aisle. Attachment B below does not demonstrate a need for a 3/8 inch tolerance to maintain adequate sightlines for adjacent seating; therefore, the uniformity tolerance is limited by Section 1029.13.2.2.1 to 3/16 inch for the plan shown in Exhibit C.
- 2a. Steps labeled O through W on Exhibit D appear to be stairways providing egress and convenience for the performance area. Steps labeled A, G, H and I appear to be stairways providing access from an adjacent walkway to the seating area.
- 2b. Section 1011.5.4 is the applicable code section for steps labeled A, G, H, I and O through W on Exhibit D. The allowed maximum tolerance from the smallest to the greatest riser height is 3/8 inch.
- 3a. Any riser difference greater than 0.03125 feet (3/8 inch) of the smallest to the largest riser is not compliant with the applicable code requirement (ref. Section 1011.5.4).
- Steps O are in compliance.
- Steps P are in compliance.
- Steps Q are not compliant because the difference in riser height from 0.50 to 0.56 is 0.06 feet which exceeds the allowed 0.03125 feet.
- Steps R are not compliant because the difference in riser height from 0.49 to 0.54 is 0.05 feet which exceeds the allowed 0.03125 feet.
- Steps S are not compliant because the difference in riser height from 0.51 to 0.57 is 0.06 feet which exceeds the allowed 0.03125 feet.
- Steps T are not compliant because the difference in riser height from 0.49 to 0.56 is 0.07 feet which exceeds the allowed 0.03125 feet.
- Steps U are not compliant because the difference in riser height from 0.50 to 0.54 is 0.04 feet which exceeds the allowed 0.03125 feet.
- Steps V are not compliant because the difference in riser height from 0.49 to 0.53 is 0.04 feet which exceeds the allowed 0.03125 feet.
- Steps W are not compliant because the difference in riser height from 0.50 to 0.54 is 0.04 feet which exceeds the allowed 0.03125 feet.
- Summary:
- Steps O and P comply with Section 1011.5.4.
 - Steps Q thru W do not comply with Section 1011.5.4.
 - Steps S, T and V could be made compliant if the bottom riser is marked as required by Section 1011.5.4.1.
 - Steps U could be made compliant if the top riser is marked as required by Section 1011.5.4.1.
- 3b. Because steps O through W are all available to be traversed, Steps O through W must all comply with Section 1011 – Stairways.

Please call if you have comments or questions.

Sincerely,



Carl Martin, RA
Deputy Commissioner
Division Chief of Engineering

cc: File
Bridget Herring, Chair – BCC
Danny Priest, Vice-Chair – BCC
Jason Shepherd, Chairman – BCC Fire Code Standing Committee
Thomas O’Kelley, Director, Rowan County Bldg Inspections
Scott Lowder, Sr. Inspector, Rowan County Bldg Inspections
Jonathan Chamberlain, Chief Officer, RCCC
Jim Atkinson, Project Manager, RCCC
James Bernier, Jr., Special Deputy Attorney General, NCDOJ
Jeff Hinkle, NC SCO Monitor
Russell Killen, counsel for McAdams
Nick Lowe, RLA McAdams
Robert Attardo, counsel for Labella
Andrew Chapin, counsel for WC Construction
Bryan Badeaux, Surety Claims Counsel, Philadelphia Insurance

Attachment A
(to Appendix #2 - NCDOT 1/6/22 Interpretation)
RCCC 12/16/21 Request for Interpretation

ATTACHMENT A

wombledbd@dickinson.com

December 16, 2021

By Electronic Mail
Mike.Causey@ncdot.gov

Marshal Mike Causey
Commissioner of Insurance
Engineering Section of the North Carolina Department of Insurance
430 North Salisbury Street
1201 Mail Service Center
Raleigh, NC 27699-1201



One West Fourth Street
Winston-Salem, NC 27101

t: 336.728.3600
f: 336.728.3660

Kenneth R. Michael, Esquire
Partner
Direct Dial: 336-721-3644
E-mail: Ken.Michael@wbd-us.com

Re: **Appeal (Request) for Formal Interpretation (N.C. Gen. Stats. § 160D-1127)**
Rowan Cabarrus Community College Outdoor Classroom Phase II
1333 S. Jake Alexander Blvd., Salisbury, NC

Commissioner Causey,

Womble Bond Dickinson is counsel for Rowan Cabarrus Community College. Pursuant to N.C. Gen. Stats. § 160D-1127, Rowan Cabarrus Community College ("Owner"), submits this appeal or request for a Formal Interpretation of the Rowan County Building Inspection Department's interpretation of the NC State Building Code relating to the as-built construction compliance of steps and stairs at the Rowan Cabarrus Community College Outdoor Classroom Phase II project in Salisbury, NC ("Project"). Please find attached the following key documents:

- Exhibit A Inspection Worksheet (INSP-420557-2021) by Scott Lowder of the Rowan County Building Inspection Department, dated December 7, 2021;
- Exhibit B December 15, 2021 11:44 AM clarification email from Thomas O'Kelly, Director of Rowan County Building Inspections;
- Exhibit C As-built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC, with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams; and
- Exhibit D For reference purposes only. Location Key for Stair Runs labeling on the as-built spot elevation survey of the runs of stairs on the project with letters A-W.

The Project is to comply with 2018 NC State Building Code. The Owner is concerned that the spot elevations on the as-built survey (Exhibit C) reveal steps and stairs with risers that do not comply with the tolerance between adjacent steps (we think 3/16") and runs of steps which are labeled A-W on Exhibit D (we think 3/8").

Please confirm (or clarify) the following:

- I. **Stepped Aisles**
 - a. Please identify which runs of steps labeled A-W on Exhibit D are "Stepped Aisles."
 - b. To the extent there are Stepped Aisles on the Project, the applicable Code reference is the following:

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Marshal Mike Causey
December 16, 2021
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1029.13.2.2.1 Construction Tolerances

The tolerance between adjacent risers on a stepped aisle that were designed to be equal height shall not exceed 3/16 inch (4.0 mm). Where the stepped aisle is designed in accordance with Exception 1 of Section 1029.13.2.2, the stepped aisle shall be constructed so that each riser of unequal height, determined in the direction of descent, is not more than 3/8 inch (9.5 mm) in height different from adjacent risers where stepped aisle treads are less than 22 inches (560 mm) in depth and 3/4 inch (19.1 mm) in height different from adjacent risers where stepped aisle treads are 22 inches (560 mm) or greater in depth.

- c. Even though the tolerance for adjacent riser heights is 3/16 Inch per Section 1029.13.2.2.1, a tolerance of 3/8 inch is deemed to be in compliance with Code.

2. Stairways

- a. Please identify which runs of steps labeled A-W on Exhibit D are "Stairways."
- b. To the extent there are Stairways on the Project, please confirm the applicable Code reference is Section 1011.5.4 Dimensional Uniformity, to which: "Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs," with Exception 1 whereby: "Stairways connecting stepped aisles to cross aisles or concourses shall be permitted to comply with the dimensional nonuniformity in Section 1029.13.2."

3. Curved Steps at Stage (labeled O through W on Exhibit D)

- a. Based on the as-built survey (Exhibit C), please identify which runs of steps are not in compliance with 2018 NC Building Code.
- b. For purposes of Code compliance, is it proper to assess all runs labeled O through W on Exhibit D, or just the ends with handrails (labeled O and W on Exhibit D)?

Please note this Appeal (Request) is separate and apart from any independent professional duty of the design professionals on the Project, McAdams and Labella Associates. Please do not hesitate to let us know if you need any additional documents or information by contacting our design professional of record for the Project.

Nick Lowe RLA, ASLA, NRFA
McAdams
direct 980.729.6072 mobile 704.239.5088
nlowe@mcadamsco.com
3430 Torrington Way, Suite 110, Charlotte, NC 28277

Thank you for your attention to this matter.

Sincerely,

WOMBLE BOND DICKINSON (US) LLP



Marshal Mike Causey
December 16, 2021
Page 3 of 8

Kenneth R. Michael

KRM: kwb

cc: Thomas O'Kelly, Director, Rowan County Bldg Inspections, Thomas.okelly@rowancountync.gov
Scott Lowder, Sr. Inspector, Rowan County Bldg Inspections, Jessie.Lowder@rowancountync.gov
Jonathan Chamberlain, Chief Officer, RCCC, jonathan_chamberlain@rccc.edu
Jim Atkinson, Project Manager, RCCC, jim_atkinson@rccc.edu
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Robert Attardo, Esq., counsel for Labella, RAAttardo@LaBellaPC.com
Andrew Chapin, Esq., counsel for WC Construction, AChapin@cgsplic.com
Bryan Badeaux, Esq. Sr. Surety Claims Counsel, Philadelphia Insurance, Bryan.Badeaux@phly.com

Attachments:

- Exhibit A Inspection Worksheet (INSP-420557-2021) by Scott Lowder of the Rowan County Building Inspection Department, dated December 7, 2021;
 - Exhibit B December 15, 2021 11:44 AM clarification email from Thomas O'Kelly, Director of Rowan County Building Inspections;
 - Exhibit C As-built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC, with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams; and
 - Exhibit D Location Key for Stair Runs labeling on the as-built spot elevation survey all the runs of stairs on the project with letters A-W.
-

Exhibit A
 (to Attachment A - RCCC 12/16/21 Request for Interpretation)
 Inspection Worksheet (INSP-420557-2021) by Scott Lowder
 of the Rowan County Building Inspection Department, dated December 7, 2021


INSPECTION WORKSHEET (INSP-420557-2021)		
Rowan County Building Inspections 402 North Main Street Suite 207 Salisbury, NC Phone: (704) 216-8619 Fax: (704) 216-7986		
Case Number:	COMM-04-20-073118	Case Module: Permit
Inspection Date:	Tue Dec 7, 2021	Inspection Status: Failed
Inspector:	Lowder, Scott	Inspection Type: Bldg Final - Res
Job Address:	1333 S JAKE ALEXANDER Blvd LVL 1 Salisbury, NC, 28146	Parcel Number: 063 068
Contact Type	Company Name	Name
Owner	ROWAN COUNTY	
Contractor General	WC Construction Company, LLC	Cockerhans, Jr, William
Owner	RCCC	
Checklist Item		Status
Inspector Comments - Inspector Comments		Failed
<ol style="list-style-type: none"> 1. No changes from previous inspection. Sections of steps in the stepped Aisles are not to code . 1 set on the left , 2 on the right looking down to the stage. These Aisle steps are designed to be equal with the gradient seating areas. The seating areas are all uniform. The construction tolerances per 1029.13.2.2.1 for a design of equal tolerances ,needs to be meet . 2. Need to test egress lighting in the aisles per the the previous inspection report. 3. Need to have engineers data for bottom plate sealing not installed per previous inspection. 		
 _____ Lowder, Scott		
Dec 07, 2021		Page (1)

Exhibit B

(to Attachment A - RCCC 12/16/21 Request for Interpretation)
December 15, 2021 11:44 AM clarification email from
Thomas O'Kelly, Director of Rowan County Building Inspections

From: O'Kelly, Thomas <Thomas.O'Kelly@rowancountync.gov>
Sent: Wednesday, December 15, 2021 11:44 AM
To: Lowe, Nick <nlowe@mcadamsco.com>
Cc: Lowder, Jessie Scott <Jessie.Lowder@rowancountync.gov>; Jim Atkinson <jim.atkinson@rccc.edu>; Danny Carpenter <danny.carpenter@rccc.edu>; David Malcolm <malcolm@mcadamsco.com>; Samuel Bush <samuel@wconstructionco.com>; William Cockerham <william@wconstructionco.com>
Subject: RE: RCCC OLC Phase II

Gentlemen,

Good morning I hope all is well. After several correspondences email and phone with you all concerning the riser heights at the RCCC Outdoor Learning Center we have received from Land Surveyor Russell Douglas a more accurate measurement of the stair riser which show risers exceeding the tolerances of 3/8". Rowan County has field measured with tape measures and determined the stairs exceed 3/8" if you feel this Rowan County inspection is incorrect you may contact the Department of Insurance Building Division for a formal interpretation.



NORTH CAROLINA

Be an original.

Thomas O'Kelly | Director

Rowan County Building Inspections

402 N. Main St. Salisbury, NC 28144

[p] 704-216-8612 [c] 704-202-4132 [f] 704-216-7986

Thomas.okelly@rowancountync.gov


www.rowancountync.gov

From: Nick Lowe <nlowe@mcadamsco.com>
Sent: Tuesday, December 14, 2021 3:59 PM
To: O'Kelly, Thomas <Thomas.O'Kelly@rowancountync.gov>
Cc: Lowder, Jessie Scott <Jessie.Lowder@rowancountync.gov>; Jim Atkinson <jim.atkinson@rccc.edu>; Danny Carpenter <danny.carpenter@rccc.edu>; David Malcolm <malcolm@mcadamsco.com>; Samuel Bush <samuel@wconstructionco.com>; William Cockerham <william@wconstructionco.com>
Subject: RCCC OLC Phase II

Thomas

I hope you have been doing well. Upon review of the most recent inspection report dated December 7th, 2021 for the above mentioned project, we would like to clarify whether particular sets of stairs are approved or disapproved or whether there was a general determination that the stairs do not meet code. Also, I understand that you may need a copy of the survey elevations for the stairs that were taken by WCCC. I have attached that for your convenience.


Thanks,



Nick Lowe RLA, ASLA, NRPA
senior landscape architect, planning + design

direct 980.729.6072 mobile 704.239.5088
nlowe@mcadamsco.com
3430 Toringdon Way, Suite 110, Charlotte, NC 28277

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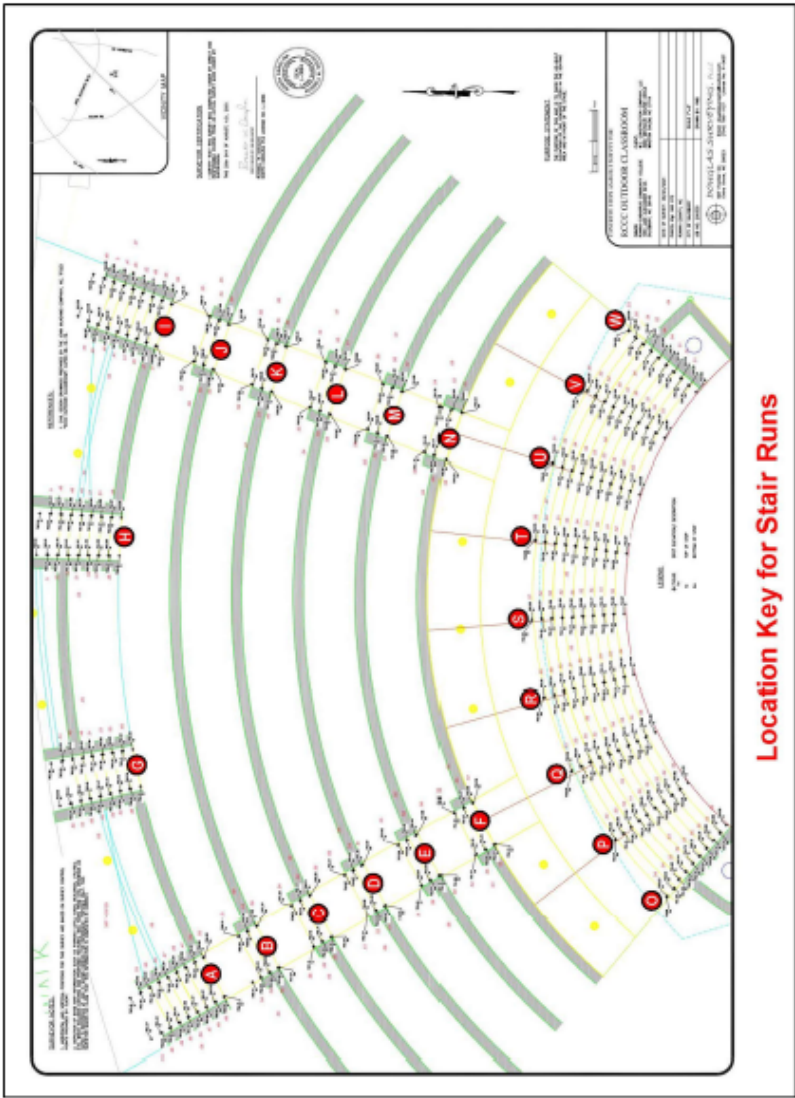
Exhibit C

(to Attachment A - RCCC 12/16/21 Request for Interpretation)

As-built spot elevation survey, dated August 24, 2021, by Douglas Surveying, PLLC, with subsequently added text of calculations in red font by the Designer, Nick Lowe, of McAdams

See separate attachment [4] to email transmitting the RCCC 9/28/22 Request for Interpretation for 2MB File of this Exhibit C.

Exhibit D
(to Attachment A - RCCC 12/16/21 Request for Interpretation)
Location Key for Stair Runs labeling on the as-built spot elevation survey all the runs of stairs on the project with letters A-W (for reference purposes only)



Location Key for Stair Runs

Attachment B
(to Appendix #1 - NCDOI 1/6/22 Interpretation)
Amphitheater Seating Elevation, by McAdams, dated December 28, 2021

