Burgos, Alexander N

Subject: FW: [External] Re: July RRC Meeting

From: Wes Tripp <wtripp@ncbels.org>
Sent: Monday, July 21, 2025 9:51 AM
To: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: Re: [External] Re: July RRC Meeting

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Thank you, Travis. I have submitted the final version of the rules via separate email to oah.rules and cc'd you and Mr. Burgos.

—Wes

S. Wesley Tripp III
Board Counsel
North Carolina Board of Examiners for Engineers and Surveyors
4601 Six Forks Rd., Ste. 310
Raleigh, NC 27609
wtripp@ncbels.org
Office: (919) 791-2000 Ext. 111
Mobile: (919) 906-9518

Burgos, Alexander N

From: Wes Tripp <wtripp@ncbels.org>
Sent: Monday, July 21, 2025 9:51 AM
To: Rules, Oah
Cc: Wiggs, Travis C; Burgos, Alexander N
Subject: [External] Submission of Permanent Rules for July Meeting
Attachments: 21 NCAC 56 .1602.docx; 21 NCAC 56 .1607.docx

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Per request of Travis Wiggs, I am attaching the final versions of two permanent rules amendments for consideration at the July RRC meeting.

Thank you,

—Wes

S. Wesley Tripp III
Board Counsel
North Carolina Board of Examiners for Engineers and Surveyors
4601 Six Forks Rd., Ste. 310
Raleigh, NC 27609
wtripp@ncbels.org
Office: (919) 791-2000 Ext. 111
Mobile: (919) 906-9518

21 NCAC 56 .1602 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1602 SURVEYING PROCEDURES

(a) A Professional Land Surveyor shall spend the necessary time and effort to make investigation to determine if there are encroachments, gaps, lappages, or other irregularities along each line surveyed. Points may be placed on the line from closed or verified traverses and the necessary investigations made from these points. If these investigations are not made, then the surveyor shall not certify to an actual survey of that line and the plat shall contain the appropriate qualifications in accordance with the rules in this Section.

(b) Any and all visible or determined encroachments or easements on the property being surveyed shall be accurately located and indicated.

(c) With respect to investigation of property boundaries and recorded easements, the surveyor shall examine the most recent deeds and recorded plats adjacent to the subject property as well as all deeds and plats recorded after the date of the deed or plat upon which the survey is being based (the survey reference deed or plat).

(d) Except as provided in Paragraph (e) of the Rule, metal stakes or materials of comparable permanence shall be placed at all ~~corners.~~ corners of the property.

(e) Where a corner falls in a right-of-way, tree, stream, or on a fence post, boulder, stone, or similar object, one or more monuments or metal stakes shall be placed in the boundary so that the inaccessible point may be located accurately on the ground and the map.

(f) The results of a survey shall be ~~reported~~ provided to the user of that survey as either a map or a report of ~~survey~~ survey. ~~and, whether~~ The results may be presented in written or graphic ~~form,~~ form. In either case, the survey shall be ~~prepared in a clear and factual manner.~~ factual and understandable to the anticipated user of the map or report. All reference sources shall be identified. Artificial monuments called for in such reports shall be described as having been found in place or ~~set.~~ set by the surveyor. When no monument is found or set for points described in Paragraph (e) of this Rule, that fact shall be noted.

(g) Tie lines and grid control defined. Where the results of a survey are reported in the form of a plat or a written description, one or more corners shall, by a system of azimuths or courses and distances, be accurately tied to and coordinated with a horizontal control monument of some United States or State Agency survey system, such as the North Carolina Geodetic Survey, where such monument is within 2000 feet of the subject property, right-of-way, easement or other surveyed ~~entity.~~ entity (i.e., "grid control"). Where the North Carolina grid system coordinates of said monument are on file in the Department of Public Safety, Emergency Management, Geodetic Survey office, the coordinates of both the referenced corner or point and the monument(s) shall be shown in X (easting) and Y (northing) coordinates on the plat or in the written description or document. The coordinates shall be identified as based on "NAD 83," indicating North American Datum of 1983 or as "NAD 27," indicating North American Datum of 1927. The datums of the National Geodetic Survey (NGS) are incorporated by reference including subsequent amendments and editions, and may be accessed free of charge at www.ngs.noaa.gov. The tie lines to the monuments shall be sufficient to establish true north or grid north bearings for the plat or description if the monuments exist in pairs. Control monuments within a previously recorded subdivision may be used in lieu of grid control. In the interest of bearing

consistency with previously recorded plats, existing bearing control may be used where practical. In the absence of grid control, other natural or artificial monuments or landmarks shall be used. In all cases, the tie lines shall be sufficient to accurately reproduce the subject lands from the control or reference points used.

(h) Whenever area is computed and included on a plat, the method of computation shall be stated on the plat. ~~Area is to be computed by double meridian distance or equally accurate method and shown on the face of the plat, written description, or other document.~~ Area computations by estimation, by planimeter, by scale, or by copying from another source are not acceptable methods, except in the case of tracts containing inaccessible ~~areas and in these areas the method of computation shall be stated.~~ areas. [~~The method of computation shall be stated on the plat.~~]

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. July 1, 1989;
Amended Eff. August 1, 2014; August 1, 2012 (see S.L. 2012-143, s.1.(f)); September 1, 2011; May 1, 2009; August 1, 2000; August 1, 1998; February 1, 1996;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019.
Amended Eff. August 1, 2025.

21 NCAC 56 .1607 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1607 GLOBAL POSITIONING SYSTEMS SURVEYS

(a) General. Global Navigation Satellite Systems (GNSS) is the generic name of navigation and positioning systems with global coverage that is comprised of GPS (Global Positioning System, United States, originally Navstar), GLONASS (Global Navigation Satellite System, Russia), Galileo (Europe), BDS (BeiDou Navigation Satellite System, China, also known as COMPASS), and any other satellite-based navigation and positioning ~~systems that provide global coverage.~~ systems.

(b) The Professional Land Surveyor in responsible charge of the GPS survey shall certify all prepared ~~documents.~~ documents pursuant to Rule .1103 of this Chapter and include a GPS certificate on the survey. When a map or document consists of more than one sheet, only one sheet must contain the certificate and all others must be certified. The certificate or metadata notes shall contain the following information:

(1) Class of GPS survey as defined in the Standards of Practice (or list the sections);

(2) ~~Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;~~ Positional accuracy;

(3) ~~Positional accuracy;~~ Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;

(4) Dates of survey;

(5) What datum and epoch coordinates or geographic positions are based on;

(6) Designation of fixed-control stations and their positional data;

(7) Geoid model used;

(8) Combined grid factor(s); and

(9) Units.

The certificate shall be substantially in the following form:

"I, _____, certify that this map was drawn under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

(1) Class of survey: _____

(2) Positional accuracy: _____

(3) Type of GPS field procedure: _____

(4) Dates of survey: _____

(5) Datum/Epoch: _____

(6) Published/Fixed-control ~~use:~~ used: _____

(7) Geoid model: _____

(8) Combined grid factor(s): _____

(9) Units: _____"

(c) GPS surveys to provide control networks shall be performed in such a manner that it meets a 95 percent confidence level of the positional accuracy of each point relative to the published positions of the control points used and shall meet the accuracy standards of a Class AA survey as set out in Rule .1603.

(d) GPS surveys performed to provide local horizontal or vertical ~~Grid~~ control on a parcel of land where the boundary or topography of that parcel will be shown relative to ~~NC Grid~~ North Carolina grid horizontal or vertical datum shall be performed using techniques that will provide the standards of accuracy for the class of survey being performed while determining the horizontal or vertical positions of objects as set out in Rule .1603 or Rule .1606 as applicable.

(e) Fixed station(s) used for the project shall appear on the map, plat, or report. The minimum data shown for each fixed station shall be station name, horizontal position (northing and easting) or latitude, longitude, elevation (ellipsoid or orthometric), and datum and epoch.

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. November 2, 1992;
Amended Eff. August 1, 2011; May 1, 2009; August 1, 2002; August 1, 2000;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019;
Amended Eff. August 1, 2025; July 1, 2020.

Burgos, Alexander N

Subject: FW: [External] Re: July RRC Meeting

From: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Sent: Sunday, July 20, 2025 4:23 PM
To: Wes Tripp <wtripp@ncbels.org>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: RE: [External] Re: July RRC Meeting

I should've added I'm satisfied with your proposed changes, and I intend to recommend approval of the rules.

Thanks,

Travis C. Wiggs
Rules Review Commission Counsel
Office of Administrative Hearings
Telephone: 984-236-1929
Email: travis.wiggs@oah.nc.gov

Burgos, Alexander N

Subject: FW: [External] Re: July RRC Meeting

From: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Sent: Sunday, July 20, 2025 4:21 PM
To: Wes Tripp <wtripp@ncbels.org>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: RE: [External] Re: July RRC Meeting

Wes,

Thank you. Do you still want an extension until the August meeting? If you want to add them to the July agenda, please submit the final revised rules via email to oah.rules@oah.nc.gov no later than 5pm on July 25, 2025. The electronic copy must be saved as the official rule name (XX NCAC XXXX). Please include me on the email.

Thank you.

Travis C. Wiggs
Rules Review Commission Counsel
Office of Administrative Hearings
Telephone: 984-236-1929
Email: travis.wiggs@oah.nc.gov

Burgos, Alexander N

Subject: FW: [External] Re: July RRC Meeting
Attachments: 7_2025-Engineers and Land Surveyors Request for Technical Changes.docx; 21 NCAC 56 .1602 - Revised.docx; 21 NCAC 56 .1607 - Revised.docx

From: Wes Tripp <wtripp@ncbels.org>
Sent: Thursday, July 17, 2025 1:15 PM
To: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: Re: [External] Re: July RRC Meeting

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Travis,

See attached for the August RRC meeting.

—Wes

S. Wesley Tripp III
Board Counsel
North Carolina Board of Examiners for Engineers and Surveyors
4601 Six Forks Rd., Ste. 310
Raleigh, NC 27609
wtripp@ncbels.org
Office: (919) 791-2000 Ext. 111
Mobile: (919) 906-9518

Request for Changes Pursuant to N.C. Gen. Stat. § 150B-21.10

Staff reviewed these Rules to ensure that each Rule is within the agency's statutory authority, reasonably necessary, clear and unambiguous, and adopted in accordance with Part 2 of the North Carolina Administrative Procedure Act. Following review, staff has issued this document that may request changes pursuant to G.S. 150B-21.10 from your agency or ask clarifying questions.

The imposition of a question implies that the rule as written is unclear or there is some ambiguity. If the request includes questions and you do not understand the question, please contact the reviewing attorney to discuss. Failure to respond may result in a staff opinion recommending objection.

Staff may suggest the agency "consider" an idea or language in this document. This is in no way a formal request that the agency adopt the idea or language but rather is offered merely for consideration which the agency may find preferable and clarifying.

To properly submit rewritten rules, please refer to the following Rules in the NC Administrative Code:

- Rule 26 NCAC 02C .0108 – The Rule addresses general formatting.
- Rule 26 NCAC 02C .0404 – The Rule addresses changing the introductory statement.
- Rule 26 NCAC 02C .0405 – The Rule addresses properly formatting changes made after publication in the NC Register.

Note the following general instructions:

1. You must submit the revised rule via email to oah.rules@oah.nc.gov. The electronic copy must be saved as the official rule name (XX NCAC XXXX).
2. For rules longer than one page, insert a page number.
3. Use line numbers; if the rule spans more than one page, have the line numbers reset at one for each page.
4. Do not use track changes. Make all changes using manual strikethroughs, underlines and highlighting.
5. You cannot change just one part of a word. For example:
    - Wrong: "~~a~~Association"
    - Right: "~~association~~ Association"
6. Treat punctuation as part of a word. For example:
    - Wrong: "day~~,~~; and"
    - Right: "~~day,~~ day; and"
7. Formatting instructions and examples may be found at: www.ncoah.com/rules/examples.html

If you have any questions regarding proper formatting of edits after reviewing the rules and examples, please contact the reviewing attorney.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

REQUEST FOR CHANGES PURSUANT TO G.S. 150B-21.10

AGENCY: N.C. Board of Examiners for Engineers and Surveyors

RULE CITATION: 21 NCAC 56 .1602

DEADLINE FOR RECEIPT: July 9, 2025

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

In Paragraph (d), line 15, consider adding "of the property" after "corners."

This request for change is incorporated in the revised rule.

In (f), line 20, shall be "clear" to whom? The surveyor, other professionals, or the individual who asked for the survey?

The survey should be clear to the public at large, including the surveyor's client, the surveyor themselves, and other professionals. Revised language has been proposed to address potential ambiguity.

On lines 21-22, what do "found" and "set" mean in this context?

"Found" means that the surveyor located an existing artificial monument (e.g., an iron pipe, rebar, concrete marker) already in place at the location described. It was placed in the past, typically by a prior surveyor, and the current surveyor is reporting its discovery.

"Set" means that the surveyor has placed a new artificial monument at the specified location during the current survey, usually because no suitable monument was previously found at that point.

Revised language has been proposed to address potential ambiguity.

In (g), line 24, does the regulated public knows what "accurately tied to" means?

A surveyor must know what "accurately tied to" means to become a licensed surveyor. To "accurately tie" a property corner to a monument means to precisely locate a property corner relative to a known, fixed reference point (i.e., a control monument of the North Carolina Geodetic Survey or natural monument near the subject property) so that the property can be accurately and consistently located on the ground and on maps. Tying a corner of the property being

surveyed to a control monument or natural monument ensures consistency between different surveys and allows other surveyors to relocate or verify the survey using known reference points.

N.C. Gen. Stat. § 47-30 establishes requirements for plats and surveys recorded at any Register of Deeds office in all North Carolina counties. N.C. Gen. Stat. § 47-30(f)(9) requires that one or more corners of the property being surveyed must be accurately tied to "a published geodetic datum or the North Carolina State Plane Coordinate System, or both" when such monument is within 2,000 feet of the subject property. When no horizontal control monument is located within 2,000 feet of the subject property, other natural monuments or landmarks may be used instead of grid coordinates. The language in paragraph (g) imposes the same requirement for recorded surveys found in N.C. Gen. Stat. § 47-30(f)(9) onto unrecorded surveys. This ensures that all surveys are accurately tied to a horizontal control datum or natural monument.

On line 36, what is "grid control" and where it defined?

Grid control refers to a system of precisely measured and coordinated reference points—called control points or control monuments—that are laid out across a geographic area using a specific coordinate system, such as the North Carolina State Plan Coordinate System

Both N.C. Gen. Stat. § 47-30(f)(9) and 21 NCAC 56 .1602(g) require that when a corner of the property is within 2,000 feet of a horizontal control monument, the corner must be accurately tied to the monument. However, when no control monument is located within 2,000 feet of the subject property—i.e., in the absence of grid control—the surveyor shall tie a corner of the property to other natural or artificial monuments. "Grid control" is referenced in N.C. Gen. Stat. § 47-30(f)(9).

Revised language has been proposed to address potential ambiguity.

On page 2, (h), line 3, what is an example of an "equally accurate method"? Consider inserting the method(s) into the rule or cross-reference where the method(s) can be found.

The Board decided that which exact method of area computation used by the surveyor is not as important as requiring the surveyor to accurately compute area and to provide which method the surveyor employed. Revised language has been proposed to address potential ambiguity.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

REQUEST FOR CHANGES PURSUANT TO G.S. 150B-21.10

AGENCY: N.C. Board of Examiners for Engineers and Surveyors

RULE CITATION: 21 NCAC 56 .1607

DEADLINE FOR RECEIPT: July 9, 2025

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

In (a), is it necessary to include that the systems provide "global coverage" on both lines 5 and 8?

Revised language has been proposed to address potential ambiguity.

In (b), line 10, how is this certification done? Is it in accordance with Rule .1103? If so, consider referencing that Rule in this one.

The certification is performed in accordance with Rule .1103. This request for change is incorporated in the revised rule. Revised language has been proposed to address potential ambiguity.

The certificate language inverts the order of (b)(2) and (b)(3) on lines 14 and 16 (see lines 26 and 27). Was this intentional?

No. A correction is incorporated in the revised rule.

In (d), page 2, line 1, why is "Grid" capitalized? The term is not capitalized in (b)(8). I see that it is capitalized on page 2, line 2, but "NC" precedes it, making it appear as a formal name.

This was an error. A correction is incorporated in the revised rule. The first reference of "grid" is unnecessary. The second reference has been corrected and "North Carolina" is spelled out.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

21 NCAC 56 .1602 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1602 SURVEYING PROCEDURES

(a) A Professional Land Surveyor shall spend the necessary time and effort to make investigation to determine if there are encroachments, gaps, lappages, or other irregularities along each line surveyed. Points may be placed on the line from closed or verified traverses and the necessary investigations made from these points. If these investigations are not made, then the surveyor shall not certify to an actual survey of that line and the plat shall contain the appropriate qualifications in accordance with the rules in this Section.

(b) Any and all visible or determined encroachments or easements on the property being surveyed shall be accurately located and indicated.

(c) With respect to investigation of property boundaries and recorded easements, the surveyor shall examine the most recent deeds and recorded plats adjacent to the subject property as well as all deeds and plats recorded after the date of the deed or plat upon which the survey is being based (the survey reference deed or plat).

(d) Except as provided in Paragraph (e) of the Rule, metal stakes or materials of comparable permanence shall be placed at all ~~corners.~~ corners of the property.

(e) Where a corner falls in a right-of-way, tree, stream, or on a fence post, boulder, stone, or similar object, one or more monuments or metal stakes shall be placed in the boundary so that the inaccessible point may be located accurately on the ground and the map.

(f) The results of a survey shall be ~~reported~~ provided to the user of that survey as either a map or a report of ~~survey~~ survey. ~~and, whether~~ The results may be presented in written or graphic ~~form,~~ form. In either case, the survey shall be ~~prepared in a clear and factual manner.~~ factual and understandable to the anticipated user of the map or report. All reference sources shall be identified. Artificial monuments called for in such reports shall be described as having been found in place or ~~set.~~ set by the surveyor. When no monument is found or set for points described in Paragraph (e) of this Rule, that fact shall be noted.

(g) Tie lines and grid control defined. Where the results of a survey are reported in the form of a plat or a written description, one or more corners shall, by a system of azimuths or courses and distances, be accurately tied to and coordinated with a horizontal control monument of some United States or State Agency survey system, such as the North Carolina Geodetic Survey, where such monument is within 2000 feet of the subject property, right-of-way, easement or other surveyed ~~entity.~~ entity (i.e., "grid control"). Where the North Carolina grid system coordinates of said monument are on file in the Department of Public Safety, Emergency Management, Geodetic Survey office, the coordinates of both the referenced corner or point and the monument(s) shall be shown in X (easting) and Y (northing) coordinates on the plat or in the written description or document. The coordinates shall be identified as based on "NAD 83," indicating North American Datum of 1983 or as "NAD 27," indicating North American Datum of 1927. The datums of the National Geodetic Survey (NGS) are incorporated by reference including subsequent amendments and editions, and may be accessed free of charge at www.ngs.noaa.gov. The tie lines to the monuments shall be sufficient to establish true north or grid north bearings for the plat or description if the monuments exist in pairs. Control monuments within a previously recorded subdivision may be used in lieu of grid control. In the interest of bearing

consistency with previously recorded plats, existing bearing control may be used where practical. In the absence of grid control, other natural or artificial monuments or landmarks shall be used. In all cases, the tie lines shall be sufficient to accurately reproduce the subject lands from the control or reference points used.

(h) Whenever area is computed and included on a plat, the method of computation shall be stated on the plat. ~~Area is to be computed by double meridian distance or equally accurate method and shown on the face of the plat, written description, or other document.~~ Area computations by estimation, by planimeter, by scale, or by copying from another source are not acceptable methods, except in the case of tracts containing inaccessible ~~areas and in these areas the method of computation shall be stated.~~ areas. [~~The method of computation shall be stated on the plat.~~]

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. July 1, 1989;
Amended Eff. August 1, 2014; August 1, 2012 (see S.L. 2012-143, s.1.(f)); September 1, 2011; May 1, 2009; August 1, 2000; August 1, 1998; February 1, 1996;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019.
Amended Eff. *[~~August 1, 2025.~~]* *September 1, 2025.*

21 NCAC 56 .1607 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1607 GLOBAL POSITIONING SYSTEMS SURVEYS

(a) General. Global Navigation Satellite Systems (GNSS) is the generic name of navigation and positioning systems with global coverage that is comprised of GPS (Global Positioning System, United States, originally Navstar), GLONASS (Global Navigation Satellite System, Russia), Galileo (Europe), BDS (BeiDou Navigation Satellite System, China, also known as COMPASS), and any other satellite-based navigation and positioning ~~systems that provide global coverage.~~ systems.

(b) The Professional Land Surveyor in responsible charge of the GPS survey shall certify all prepared ~~documents.~~ documents pursuant to Rule .1103 of this Chapter and include a GPS certificate on the survey. When a map or document consists of more than one sheet, only one sheet must contain the certificate and all others must be certified. The certificate or metadata notes shall contain the following information:

(1) Class of GPS survey as defined in the Standards of Practice (or list the sections);

(2) ~~Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;~~ Positional accuracy;

(3) ~~Positional accuracy;~~ Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;

(4) Dates of survey;

(5) What datum and epoch coordinates or geographic positions are based on;

(6) Designation of fixed-control stations and their positional data;

(7) Geoid model used;

(8) Combined grid factor(s); and

(9) Units.

The certificate shall be substantially in the following form:

"I, _____, certify that this map was drawn under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

(1) Class of survey: _____

(2) Positional accuracy: _____

(3) Type of GPS field procedure: _____

(4) Dates of survey: _____

(5) Datum/Epoch: _____

(6) Published/Fixed-control ~~use:~~ used: _____

(7) Geoid model: _____

(8) Combined grid factor(s): _____

(9) Units: _____"

(c) GPS surveys to provide control networks shall be performed in such a manner that it meets a 95 percent confidence level of the positional accuracy of each point relative to the published positions of the control points used and shall meet the accuracy standards of a Class AA survey as set out in Rule .1603.

(d) GPS surveys performed to provide local horizontal or vertical ~~Grid~~ control on a parcel of land where the boundary or topography of that parcel will be shown relative to ~~NC Grid~~ North Carolina grid horizontal or vertical datum shall be performed using techniques that will provide the standards of accuracy for the class of survey being performed while determining the horizontal or vertical positions of objects as set out in Rule .1603 or Rule .1606 as applicable.

(e) Fixed station(s) used for the project shall appear on the map, plat, or report. The minimum data shown for each fixed station shall be station name, horizontal position (northing and easting) or latitude, longitude, elevation (ellipsoid or orthometric), and datum and epoch.

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. November 2, 1992;
Amended Eff. August 1, 2011; May 1, 2009; August 1, 2002; August 1, 2000;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019;
Amended Eff. [~~August 1, 2025;~~] September 1, 2025; July 1, 2020.

Burgos, Alexander N

From: Wes Tripp <wtripp@ncbels.org>
Sent: Wednesday, June 25, 2025 8:22 AM
To: Wiggs, Travis C
Cc: Burgos, Alexander N
Subject: Re: [External] Re: July RRC Meeting

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Thanks, Travis.

—Wes

S. Wesley Tripp III
Board Counsel
North Carolina Board of Examiners for Engineers and Surveyors
4601 Six Forks Rd., Ste. 310
Raleigh, NC 27609
wtripp@ncbels.org
Office: (919) 791-2000 Ext. 111
Mobile: (919) 906-9518

From: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Date: Wednesday, June 25, 2025 at 7:11 AM
To: Wes Tripp <wtripp@ncbels.org>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: RE: [External] Re: July RRC Meeting

[EXTERNAL]
Wes,

I have no objection to your extension request. This will be on the July agenda for the RRC's consideration.

Thanks,

Travis C. Wiggs
Rules Review Commission Counsel
Office of Administrative Hearings
Telephone: 984-236-1929
Email: travis.wiggs@oah.nc.gov

From: Wes Tripp <wtripp@ncbels.org>
Sent: Tuesday, June 24, 2025 4:39 PM
To: Wiggs, Travis C <travis.wiggs@oah.nc.gov>

Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: [External] Re: July RRC Meeting

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Travis,

Given the technical nature of the rules being amended, I will need time to confer with the Surveying members of my Board to answer your questions. The Surveying Committee of the Board is meeting on July 15. I will be able to provide responses to your questions by July 20. I would like to request an extension to the August 2025 RRC meeting.

Thanks,

—Wes

S. Wesley Tripp III
Board Counsel
North Carolina Board of Examiners for Engineers and Surveyors
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wtripp@ncbels.org
Office: (919) 791-2000 Ext. 111
Mobile: (919) 906-9518

From: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Date: Tuesday, June 24, 2025 at 10:46 AM
To: Wes Tripp <wtripp@ncbels.org>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: July RRC Meeting

[EXTERNAL]
Good morning,
I'm the attorney who reviewed the rules submitted by the Board of Examiners for Engineers and Surveyors for the July 2025 RRC meeting. The RRC will formally review these rules at its meeting on Wednesday, July 30, 2025, at 10:00 a.m. The meeting will be a hybrid of in-person and WebEx attendance, and an evite should be sent to you as we get close to the meeting. If there are any other representatives from your agency who want to attend virtually, please let me know prior to the meeting, and we will get evites out to them as well.
Attached is the Request for Changes Pursuant to G.S. 150B-21.10. Please submit the revised rules to me via email, no later than 5 p.m. on July 9, 2025. Let me know if you have any questions.
Thanks,

Travis C. Wiggs
Rules Review Commission Counsel
Office of Administrative Hearings
Telephone: 984-236-1929

Email: travis.wiggs@oah.nc.gov

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

Request for Changes Pursuant to N.C. Gen. Stat. § 150B-21.10

Staff reviewed these Rules to ensure that each Rule is within the agency's statutory authority, reasonably necessary, clear and unambiguous, and adopted in accordance with Part 2 of the North Carolina Administrative Procedure Act. Following review, staff has issued this document that may request changes pursuant to G.S. 150B-21.10 from your agency or ask clarifying questions.

The imposition of a question implies that the rule as written is unclear or there is some ambiguity. If the request includes questions and you do not understand the question, please contact the reviewing attorney to discuss. Failure to respond may result in a staff opinion recommending objection.

Staff may suggest the agency "consider" an idea or language in this document. This is in no way a formal request that the agency adopt the idea or language but rather is offered merely for consideration which the agency may find preferable and clarifying.

To properly submit rewritten rules, please refer to the following Rules in the NC Administrative Code:

- Rule 26 NCAC 02C .0108 – The Rule addresses general formatting.
- Rule 26 NCAC 02C .0404 – The Rule addresses changing the introductory statement.
- Rule 26 NCAC 02C .0405 – The Rule addresses properly formatting changes made after publication in the NC Register.

Note the following general instructions:

1. You must submit the revised rule via email to oah.rules@oah.nc.gov. The electronic copy must be saved as the official rule name (XX NCAC XXXX).
2. For rules longer than one page, insert a page number.
3. Use line numbers; if the rule spans more than one page, have the line numbers reset at one for each page.
4. Do not use track changes. Make all changes using manual strikethroughs, underlines and highlighting.
5. You cannot change just one part of a word. For example:
    - Wrong: "~~a~~Association"
    - Right: "~~association~~ Association"
6. Treat punctuation as part of a word. For example:
    - Wrong: "day~~,~~; and"
    - Right: "~~day,~~ day; and"
7. Formatting instructions and examples may be found at: www.ncoah.com/rules/examples.html

If you have any questions regarding proper formatting of edits after reviewing the rules and examples, please contact the reviewing attorney.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

REQUEST FOR CHANGES PURSUANT TO G.S. 150B-21.10

AGENCY: N.C. Board of Examiners for Engineers and Surveyors

RULE CITATION: 21 NCAC 56 .1602

DEADLINE FOR RECEIPT: July 9, 2025

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

In Paragraph (d), line 15, consider adding "of the property" after "corners."

This request for change is incorporated in the revised rule.

In (f), line 20, shall be "clear" to whom? The surveyor, other professionals, or the individual who asked for the survey?

The survey should be clear to the public at large, including the surveyor's client, the surveyor themselves, and other professionals. Revised language has been proposed to address potential ambiguity.

On lines 21-22, what do "found" and "set" mean in this context?

"Found" means that the surveyor located an existing artificial monument (e.g., an iron pipe, rebar, concrete marker) already in place at the location described. It was placed in the past, typically by a prior surveyor, and the current surveyor is reporting its discovery.

"Set" means that the surveyor has placed a new artificial monument at the specified location during the current survey, usually because no suitable monument was previously found at that point.

Revised language has been proposed to address potential ambiguity.

In (g), line 24, does the regulated public knows what "accurately tied to" means?

A surveyor must know what "accurately tied to" means to become a licensed surveyor. To "accurately tie" a property corner to a monument means to precisely locate a property corner relative to a known, fixed reference point (i.e., a control monument of the North Carolina Geodetic Survey or natural monument near the subject property) so that the property can be accurately and consistently located on the ground and on maps. Tying a corner of the property being

surveyed to a control monument or natural monument ensures consistency between different surveys and allows other surveyors to relocate or verify the survey using known reference points.

N.C. Gen. Stat. § 47-30 establishes requirements for plats and surveys recorded at any Register of Deeds office in all North Carolina counties. N.C. Gen. Stat. § 47-30(f)(9) requires that one or more corners of the property being surveyed must be accurately tied to "a published geodetic datum or the North Carolina State Plane Coordinate System, or both" when such monument is within 2,000 feet of the subject property. When no horizontal control monument is located within 2,000 feet of the subject property, other natural monuments or landmarks may be used instead of grid coordinates. The language in paragraph (g) imposes the same requirement for recorded surveys found in N.C. Gen. Stat. § 47-30(f)(9) onto unrecorded surveys. This ensures that all surveys are accurately tied to a horizontal control datum or natural monument.

On line 36, what is "grid control" and where it defined?

Grid control refers to a system of precisely measured and coordinated reference points—called control points or control monuments—that are laid out across a geographic area using a specific coordinate system, such as the North Carolina State Plan Coordinate System

Both N.C. Gen. Stat. § 47-30(f)(9) and 21 NCAC 56 .1602(g) require that when a corner of the property is within 2,000 feet of a horizontal control monument, the corner must be accurately tied to the monument. However, when no control monument is located within 2,000 feet of the subject property—i.e., in the absence of grid control—the surveyor shall tie a corner of the property to other natural or artificial monuments. "Grid control" is referenced in N.C. Gen. Stat. § 47-30(f)(9).

Revised language has been proposed to address potential ambiguity.

On page 2, (h), line 3, what is an example of an "equally accurate method"? Consider inserting the method(s) into the rule or cross-reference where the method(s) can be found.

The Board decided that which exact method of area computation used by the surveyor is not as important as requiring the surveyor to accurately compute area and to provide which method the surveyor employed. Revised language has been proposed to address potential ambiguity.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

REQUEST FOR CHANGES PURSUANT TO G.S. 150B-21.10

AGENCY: N.C. Board of Examiners for Engineers and Surveyors

RULE CITATION: 21 NCAC 56 .1607

DEADLINE FOR RECEIPT: July 9, 2025

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

In (a), is it necessary to include that the systems provide "global coverage" on both lines 5 and 8?

Revised language has been proposed to address potential ambiguity.

In (b), line 10, how is this certification done? Is it in accordance with Rule .1103? If so, consider referencing that Rule in this one.

The certification is performed in accordance with Rule .1103. This request for change is incorporated in the revised rule. Revised language has been proposed to address potential ambiguity.

The certificate language inverts the order of (b)(2) and (b)(3) on lines 14 and 16 (see lines 26 and 27). Was this intentional?

No. A correction is incorporated in the revised rule.

In (d), page 2, line 1, why is "Grid" capitalized? The term is not capitalized in (b)(8). I see that it is capitalized on page 2, line 2, but "NC" precedes it, making it appear as a formal name.

This was an error. A correction is incorporated in the revised rule. The first reference of "grid" is unnecessary. The second reference has been corrected and "North Carolina" is spelled out.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Travis Wiggs
Commission Counsel
Submitted on June 24, 2025

21 NCAC 56 .1602 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1602 SURVEYING PROCEDURES

(a) A Professional Land Surveyor shall spend the necessary time and effort to make investigation to determine if there are encroachments, gaps, lappages, or other irregularities along each line surveyed. Points may be placed on the line from closed or verified traverses and the necessary investigations made from these points. If these investigations are not made, then the surveyor shall not certify to an actual survey of that line and the plat shall contain the appropriate qualifications in accordance with the rules in this Section.

(b) Any and all visible or determined encroachments or easements on the property being surveyed shall be accurately located and indicated.

(c) With respect to investigation of property boundaries and recorded easements, the surveyor shall examine the most recent deeds and recorded plats adjacent to the subject property as well as all deeds and plats recorded after the date of the deed or plat upon which the survey is being based (the survey reference deed or plat).

(d) Except as provided in Paragraph (e) of the Rule, metal stakes or materials of comparable permanence shall be placed at all ~~corners.~~ corners of the property.

(e) Where a corner falls in a right-of-way, tree, stream, or on a fence post, boulder, stone, or similar object, one or more monuments or metal stakes shall be placed in the boundary so that the inaccessible point may be located accurately on the ground and the map.

(f) The results of a survey shall be ~~reported~~ provided to the user of that survey as either a map or a report of ~~survey~~ survey. ~~and, whether~~ The results may be presented in written or graphic ~~form,~~ form. In either case, the survey shall be ~~prepared in a clear and factual manner.~~ factual and understandable to the anticipated user of the map or report. All reference sources shall be identified. Artificial monuments called for in such reports shall be described as having been found in place or ~~set.~~ set by the surveyor. When no monument is found or set for points described in Paragraph (e) of this Rule, that fact shall be noted.

(g) Tie lines and grid control defined. Where the results of a survey are reported in the form of a plat or a written description, one or more corners shall, by a system of azimuths or courses and distances, be accurately tied to and coordinated with a horizontal control monument of some United States or State Agency survey system, such as the North Carolina Geodetic Survey, where such monument is within 2000 feet of the subject property, right-of-way, easement or other surveyed ~~entity.~~ entity (i.e., "grid control"). Where the North Carolina grid system coordinates of said monument are on file in the Department of Public Safety, Emergency Management, Geodetic Survey office, the coordinates of both the referenced corner or point and the monument(s) shall be shown in X (easting) and Y (northing) coordinates on the plat or in the written description or document. The coordinates shall be identified as based on "NAD 83," indicating North American Datum of 1983 or as "NAD 27," indicating North American Datum of 1927. The datums of the National Geodetic Survey (NGS) are incorporated by reference including subsequent amendments and editions, and may be accessed free of charge at www.ngs.noaa.gov. The tie lines to the monuments shall be sufficient to establish true north or grid north bearings for the plat or description if the monuments exist in pairs. Control monuments within a previously recorded subdivision may be used in lieu of grid control. In the interest of bearing

consistency with previously recorded plats, existing bearing control may be used where practical. In the absence of grid control, other natural or artificial monuments or landmarks shall be used. In all cases, the tie lines shall be sufficient to accurately reproduce the subject lands from the control or reference points used.

(h) Whenever area is computed and included on a plat, the method of computation shall be stated on the plat. ~~Area is to be computed by double meridian distance or equally accurate method and shown on the face of the plat, written description, or other document.~~ Area computations by estimation, by planimeter, by scale, or by copying from another source are not acceptable methods, except in the case of tracts containing inaccessible ~~areas and in these areas the method of computation shall be stated.~~ areas. [~~The method of computation shall be stated on the plat.~~]

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. July 1, 1989;
Amended Eff. August 1, 2014; August 1, 2012 (see S.L. 2012-143, s.1.(f)); September 1, 2011; May 1, 2009; August 1, 2000; August 1, 1998; February 1, 1996;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019.
Amended Eff. *[~~August 1, 2025.~~]* *September 1, 2025.*

21 NCAC 56 .1607 is amended with changes as published in 39:17 NCR 1123–24 as follows:

21 NCAC 56 .1607 GLOBAL POSITIONING SYSTEMS SURVEYS

(a) General. Global Navigation Satellite Systems (GNSS) is the generic name of navigation and positioning systems with global coverage that is comprised of GPS (Global Positioning System, United States, originally Navstar), GLONASS (Global Navigation Satellite System, Russia), Galileo (Europe), BDS (BeiDou Navigation Satellite System, China, also known as COMPASS), and any other satellite-based navigation and positioning ~~systems that provide global coverage.~~ systems.

(b) The Professional Land Surveyor in responsible charge of the GPS survey shall certify all prepared ~~documents.~~ documents pursuant to Rule .1103 of this Chapter and include a GPS certificate on the survey. When a map or document consists of more than one sheet, only one sheet must contain the certificate and all others must be certified. The certificate or metadata notes shall contain the following information:

(1) Class of GPS survey as defined in the Standards of Practice (or list the sections);

(2) ~~Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;~~ Positional accuracy;

(3) ~~Positional accuracy;~~ Type of GPS field procedure, such as Static, Kinematic, Pseudo-Kinematic, Real-time Kinematic, Real-time Kinematic networks, and Online Position User Service;

(4) Dates of survey;

(5) What datum and epoch coordinates or geographic positions are based on;

(6) Designation of fixed-control stations and their positional data;

(7) Geoid model used;

(8) Combined grid factor(s); and

(9) Units.

The certificate shall be substantially in the following form:

"I, _____, certify that this map was drawn under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

(1) Class of survey: _____

(2) Positional accuracy: _____

(3) Type of GPS field procedure: _____

(4) Dates of survey: _____

(5) Datum/Epoch: _____

(6) Published/Fixed-control ~~use:~~ used: _____

(7) Geoid model: _____

(8) Combined grid factor(s): _____

(9) Units: _____"

(c) GPS surveys to provide control networks shall be performed in such a manner that it meets a 95 percent confidence level of the positional accuracy of each point relative to the published positions of the control points used and shall meet the accuracy standards of a Class AA survey as set out in Rule .1603.

(d) GPS surveys performed to provide local horizontal or vertical ~~Grid~~ control on a parcel of land where the boundary or topography of that parcel will be shown relative to ~~NC Grid~~ North Carolina grid horizontal or vertical datum shall be performed using techniques that will provide the standards of accuracy for the class of survey being performed while determining the horizontal or vertical positions of objects as set out in Rule .1603 or Rule .1606 as applicable.

(e) Fixed station(s) used for the project shall appear on the map, plat, or report. The minimum data shown for each fixed station shall be station name, horizontal position (northing and easting) or latitude, longitude, elevation (ellipsoid or orthometric), and datum and epoch.

History Note: *Authority G.S. 89C-10; 89C-20;*
Eff. November 2, 1992;
Amended Eff. August 1, 2011; May 1, 2009; August 1, 2002; August 1, 2000;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. April 27, 2019;
Amended Eff. [~~August 1, 2025;~~] September 1, 2025; July 1, 2020.

Burgos, Alexander N

From: Wes Tripp <wtripp@ncbels.org>
Sent: Wednesday, June 25, 2025 8:22 AM
To: Wiggs, Travis C
Cc: Burgos, Alexander N
Subject: Re: [External] Re: July RRC Meeting

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Thanks, Travis.

—Wes

S. Wesley Tripp III
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Mobile: (919) 906-9518

From: Wiggs, Travis C <travis.wiggs@oah.nc.gov>
Date: Wednesday, June 25, 2025 at 7:11 AM
To: Wes Tripp <wtripp@ncbels.org>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: RE: [External] Re: July RRC Meeting

[EXTERNAL]
Wes,

I have no objection to your extension request. This will be on the July agenda for the RRC's consideration.

Thanks,

Travis C. Wiggs
Rules Review Commission Counsel
Office of Administrative Hearings
Telephone: 984-236-1929
Email: travis.wiggs@oah.nc.gov

From: Wes Tripp <wtripp@ncbels.org>
Sent: Tuesday, June 24, 2025 4:39 PM
To: Wiggs, Travis C <travis.wiggs@oah.nc.gov>

Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: [External] Re: July RRC Meeting

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