



Engineering & Inspections

EXTERIOR CLUSTER BOX UNIT (CBU) DESIGN FOR ACCESSIBILITY IN SINGLE FAMILY DEVELOPMENTS (2017-01-09)

The US Postal Service is now requiring cluster box units for mail delivery in one-and-two-family neighborhoods as well as townhouses and multi-family complexes. These are public access facilities, just like clubhouses, offices, recreational facilities, etc., and as such, are required to meet the accessibility requirements of the NC Building Code (NCBC) and the ICC/ANSI A117.1 (ANSI) standard. Mailboxes inside buildings are regulated by NCBC Appendix E 105.4, and required by NCBC 1104.3 to be on an accessible route. Exterior cluster box units (CBUs) are required by NCBC 1104.2 to be on an accessible route. In multi-family dwelling complexes built under the NCBC, the practice of including accessible routes to mailboxes, mail kiosks, and interior mail pickup locations is well established. Due to traditionally reduced connectivity within single family residential developments, accessibility for CBUs there raises new questions.

The North Carolina Department of Insurance (NCDOTI), Office of the State Fire Marshall, Engineering Division has published an interpretation for CBUs, to be used unless and until other standards are developed and adopted as Code. The NCDOTI requirements are published online at:

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_Accessibility_Update_-_Newsletters&user=Code_Enforcement_Resources&sub=Accessibility_Update

Single Family Development CBU's



The previous issue of this newsletter detailed a USPS-NCDOTI-ANSI agreement regarding access to mailboxes in common use areas in single family developments. The agreement was intended to be applicable to all exterior common use mailboxes throughout the state. Since then, USPS HQ in Washington, DC has indicated that a Task Force will be formed to address access to CBUs across the entire US as well as North Carolina. The previous joint agreement has been rescinded. The procedure detailed below will be enforced for access to Cluster Box Units (CBUs) in single family subdivisions throughout North Carolina until NCDOTI has been notified of a decision by the USPS Task Force.

For exterior CBUs in single family developments only: [in effect until USPS Task Force resolution]

1. Provide accessible parking or passenger loading zone at CBU location.
2. Provide accessible route to the CBU (provide all the way around, if double-sided).
 - a. Provide clear floor area in front of the CBU – 30" x 48" [NCBC 1104.2 requires 48" minimum path of travel]
 - b. Provide 60" maneuvering space to be able to get into the clear floor space.
3. No reach ranges to CBU required.

NOTE:

- Item 2b required as the approach may be from the left/right, but if the individual is right-handed (or the reverse), s/he has to be able to turn around to operate the mechanism on the box.
- Provision of a 60" turning area at both ends of the CBU may be substituted for the 60" maneuvering clearance in front the CBU or on both sides of a 2-sided CBU.
- Keep in mind that interior common use mailboxes continue to be required to be accessible per NCBC App E105.4.

No Standard Design: There is no standard design detail for accessible routes to CBUs within project sites. As with all other buildings and facilities, accessible routes are designed using a “building blocks” approach, applying the requirements of the NC Building Code (NCBC) and ICC/ANSI A117.1 (ANSI) to each component in the route. It is the designer’s prerogative to design accessible routes in the way that best serves the project, and in compliance with the code. The detailed design will vary depending on the configuration of the CBU and accessible routes to it.

Components of accessible routes to CBUs: The following is a non-exclusive summary of requirements for common components of accessible routes to CBUs.

- **Pedestrian access:**
 - The NCBC does not require pedestrian routes to detached one-and-two-family dwellings or associated structures and facilities on their lots (NCBC 1103.2.4). Townhouses are not exempt, and must meet NCBC 1107.6.3 where applicable. City ordinances may require pedestrian routes.
 - Pedestrian routes on one-and-two family lots are not required to be accessible (NCBC 1103.2.4).
 - Pedestrian routes in the public right-of-way are not regulated by the NCBC. They are regulated by the Transportation Department.
 - If pedestrian routes are provided on common property within the development, NCBC 1104.1 & 2 requires them to be accessible.
 - NCBC Sections 1104.1 & 1104.2 expand the minimum width of exterior accessible routes to 48”.
 - ANSI 302 requires floor surfaces to be “stable, firm, and slip resistant”, and level per Sections 303 and 402. A 2% cross slope (1/4” per foot) is permitted for drainage and up to 5% slope (1:20) is permitted in the direction of travel (ANSI Section 403.3). Slopes from 1:20 to 1:12 are to be treated as ramps (ANSI Section 405). Slopes steeper than 1:12 are not accessible routes.

- **Vehicular access:** Per the NCDOI Access Update above, vehicular access including either an accessible parking space or an accessible passenger loading zone, and an accessible route from it to the CBU, is required for every CBU location in a single family development.

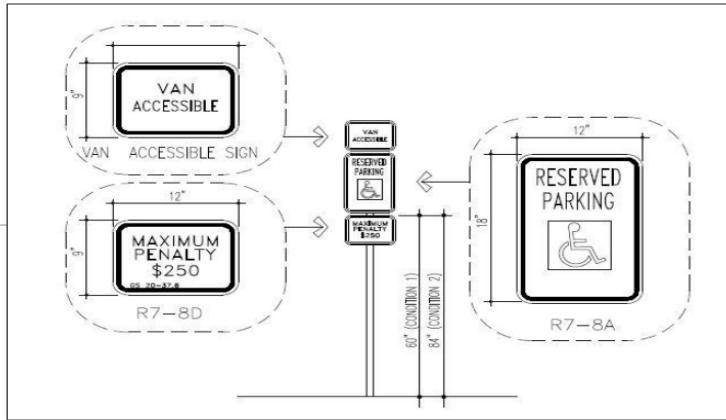
- **Van accessible parking space:**
 - The first parking space for each CBU must always be van accessible (NCBC 1106.1 & 1106.5).
 - Van accessible parking spaces shall be 132” wide with a 60” access aisle, or may be 96” wide where the adjacent side aisle is 96” (ANSI 502).
 - Accessible parking spaces are required to be marked to define their width (ANSI 502.3)
 - Access aisles are required to be marked to discourage parking in them, to adjoin an accessible route, and are not permitted to overlap the vehicular way (ANSI 502.4).
 - Floor surfaces of accessible parking spaces and access aisles shall comply with ANSI 302 and not be steeper than 1:48 (1/4” per foot) (ANSI 502.5)
 - Accessible parking spaces shall be identified by signage per ANSI 502.7 and NC State law.

NCDOI has provided direction as shown below and in Access Newsletters at:
http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_Accessibility_Update_-_Newsletters&user=Code_Enforcement_Resources&sub=Accessibility_Update AND
http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_Accessibility_Update_-_Newsletters&user=Code_Enforcement_Resources&sub=Accessibility_Update

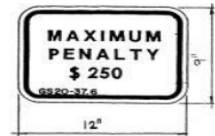
Parking Sign Mounting Heights

Q: For years, our firm has been mounting parking signage using the attached sketch that originally reflected the requirements for signage mounting heights in the 1999/2002/2004 NC Accessibility Code (the old Vol. I-C). Recently we were told that this detail does not work. There is no similar detail in the ANSI A117.1 standard. Have the requirements changed?

A: The 2009 ANSI A117.1 – Section 507.2 clarifies that the measurement *shall be 60" minimum above the floor of the parking space, measured to the bottom of the sign*. The requirement has been interpreted to mean 60" to the bottom of the lowest sign that is provided. Since there are no longer any Condition 1 or Condition 2 situations, if you wish to maintain the same diagram that you have been using, I would suggest replacing the Condition 1 and Condition 2 dimensions with a single 60" dimension measured to the bottom of the lowest sign (the Maximum Penalty Sign).



Parking Sign Requirements



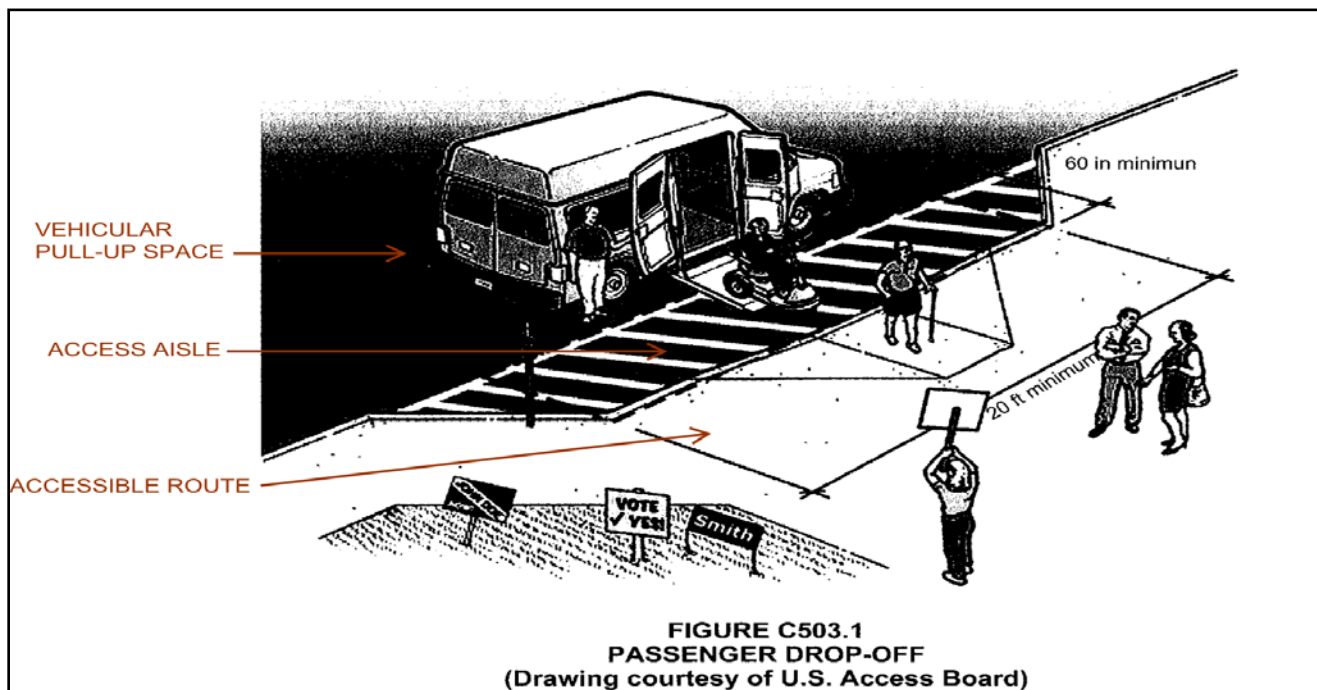
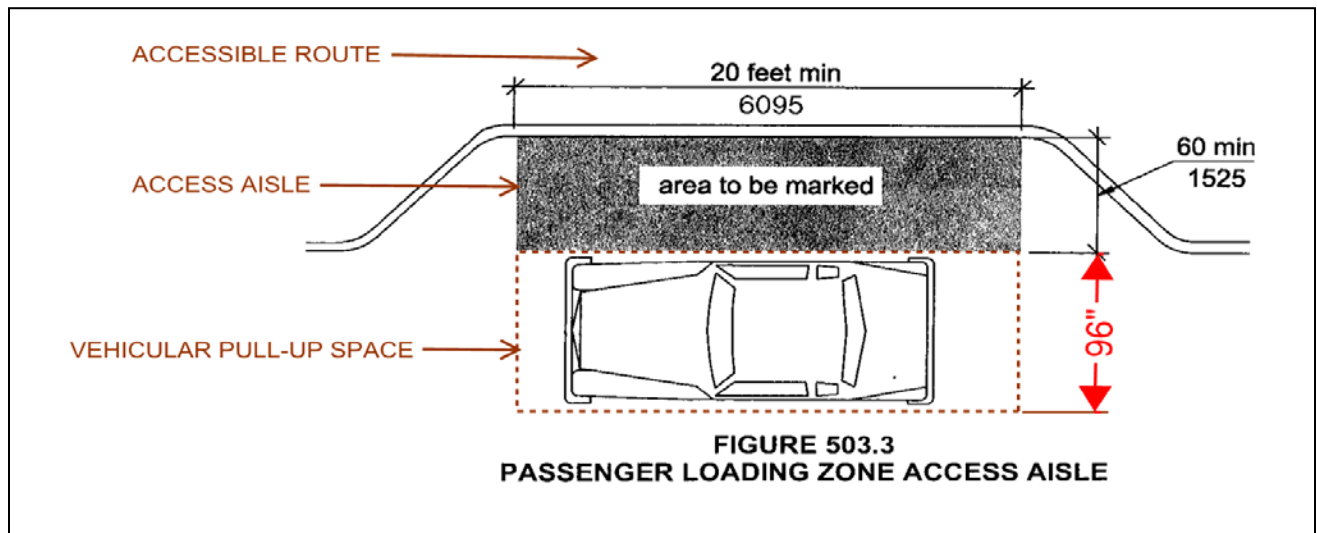
Q: Does the signage for the accessible parking still have to have the statute and penalty language included?

A: **NCBC 1110.1** references three locations. Only **G.S. §20-37.6** requires the maximum penalty to be included on the sign. There is no requirement to reference the general statute, although doing so is not prohibited.

1. The **MUTCD** and the **NC Supplement** – no specific requirement found. [[click here](#)]
2. **G.S. §20-37.6**. [[click here](#)]
(d) Designation of Parking Spaces. - Designation of parking spaces for handicapped persons on streets and public vehicular areas shall comply with G.S. 136-30. A sign designating a parking space for handicapped persons shall state the maximum penalty for parking in the space in violation of the law.
3. **G.S. §136-30**. [[click here](#)]
(c) Public Vehicular Areas. - Except as provided in this subsection, all traffic signs and other traffic control devices placed on a public vehicular area, as defined in **G.S. 20-4.01**, must conform to the Uniform Manual. The owner of private property that contains a public vehicular area may place on the property a traffic control device, other than a sign designating a parking space for handicapped persons, as defined in **G.S. 20-37.5**, that differs in material from the uniform device but does not differ in shape, size, color, or any other way from the uniform device. The owner of private property that contains a public vehicular area may place on the property a sign designating a parking space for handicapped persons that differs in material and color from the uniform sign but does not differ in shape, size, or any other way from the uniform device.

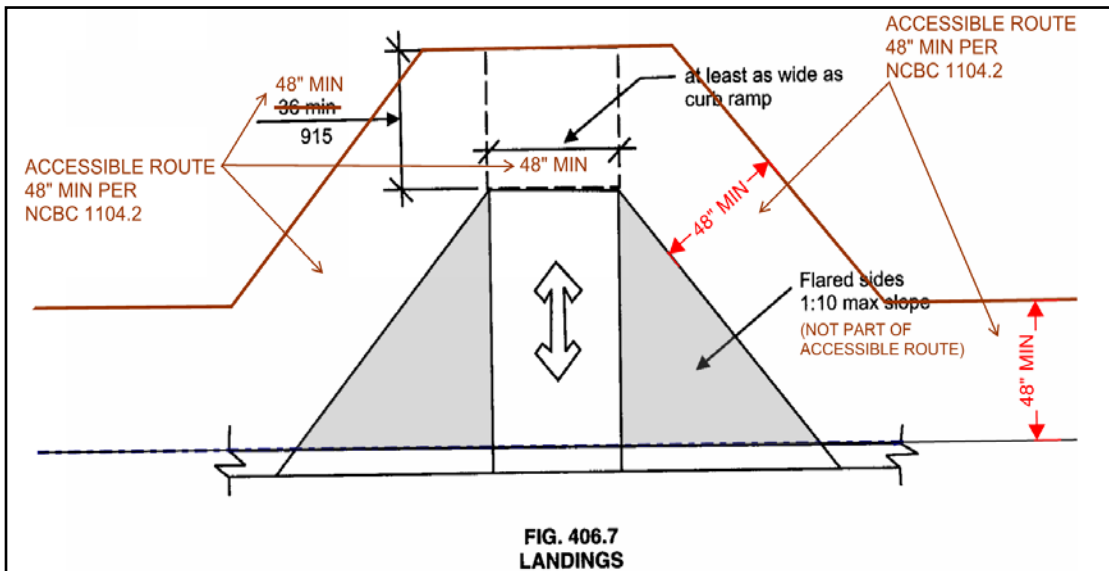
- **Accessible passenger loading zone (PLZ):**

- Accessible passenger loading zones must comply with ANSI 503.
- A vehicular pull-up space 96" wide and 20' long is required (ANSI 503.2)
- Adjacent to the vehicular pull-up space, an access aisle 60" wide and 20' long is required. The access aisle cannot overlap the vehicular way, must adjoin the accessible route and be marked to discourage parking in it (ANSI 503.3).
- Access aisles shall be at the same level as the vehicular pull-up space they serve, and both shall be sloped no steeper than 1:48 (1/4" per foot) (ANSI 503.4).
- See ANSI Figure 503.3 and Commentary Figure C503.1 with explanatory notes below:

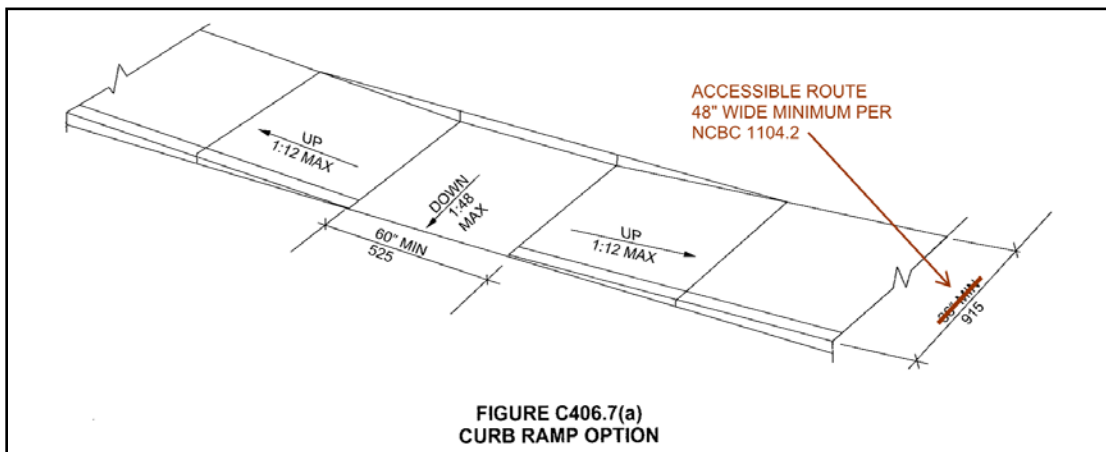


- **Curb ramp:**

- Unless the adjacent accessible route is flush with the access aisle of the accessible parking space or passenger loading zone, a curb ramp is required to connect the access aisle to the accessible route (ANSI 402.2).
- Curb ramps must comply with ANSI Section 406. They are not permitted to project into the access aisle (ANSI 406.6), so they are generally recessed into an elevated accessible route.
- A landing is required at the top of each curb ramp, extending a minimum of 48” beyond the top of the ramp (ANSI 406.7 and NCBC 1104.2). The flares of ramps are not permitted to be used as part of the accessible route in new work except in alterations where ANSI 406.7 EXCEPTION applies. See ANSI Figure 406.7 and ANSI Commentary Figure C406.7(a) below, with explanatory notes and NC dimensions:



- Another popular ramp configuration, shown in the ANSI A117.1 Commentary, is multiple 48” minimum wide ramps facing a common 5’ bottom landing, top landings as required in each direction of travel.



- **Clear floor space:**
 - Clear Floor Space complying with ANSI Section 305, level within 1:48 (1/4" per foot) shall be provided for all operable sides of CBUs. This includes access by the residents and by US Postal Service employees (mail pick-up and loading).
 - Clear Floor Spaces are required to be 30" x 48" clear (ANSI 305.3) and may be oriented for front or side approach.
 - Note that the space in front of any operable side of a CBU is also part of the accessible route, and required to be 48" minimum wide.

- **Turning space:**
 - One or more 60" turning spaces complying with ANSI 304, level within 1:48 (1/4" per foot) must be provided for maneuvering space to approach the CBU, to orient a wheelchair in the required clear floor space, then change direction and leave the location. This might consist of a 60" deep clear area in front of each operable face of the CBU, or a 48" clear access route to all operable faces, with a 60" turning space at each end. Other configurations may be possible.