



STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

DATE: March 16, 2026

TO: All TMP Designers

FROM: Kenneth C. Thornewell, State Work Zone Traffic Control Engineer

SUBJECT: Temporary Crash Cushions

DS
KCT

This memo serves to communicate changes to how temporary crash cushions are incorporated into Transportation Management Plans (TMPs).

BACKGROUND

Temporary crash cushions are used to shield the ends of temporary longitudinal barrier within the clear zone and there are two types available in the industry: non-gating, redirective and gating, non-redirective. For simplicity, this memo will refer to the units as either non-gating or gating.

Until recently, non-gating units were the standard temporary crash cushions used in North Carolina. As market conditions and technologies have evolved, gating units are becoming more widely available. Both types are crashworthy and have approval for use in North Carolina, however, they behave differently when struck.

When struck on an angle, non-gating temporary crash cushions redirect vehicles and do not allow the vehicle to proceed through the crash cushion. Gating temporary crash cushions dissipate the energy and slow down a vehicle but deform greatly and can allow controlled vehicle penetration through the device. Since there is lateral displacement and possible vehicle penetration, gating temporary crash cushions should not be used if there is not space for the displacement or a clear runout area behind the crash cushion.

RESPONSIBILITY AND IMPLEMENTATION

If there is ample space for lateral displacement of the temporary crash cushion when struck and there is a clear runout area behind the crash cushion, any approved crash cushion (non-gating or gating) may be used and there is no further action necessary by the TMP designer.

When there is limited space for lateral displacement of the temporary crash cushion and/or a clear runout behind the crash cushion cannot be achieved, a non-gating crash cushion should be used. When these conditions exist, it is the responsibility of the TMP designer to identify and label temporary non-gating crash cushions using the following protocol:

1. Add this note in the traffic barrier section of the general notes: Use non-gating crash cushions as required in the TMP.
2. In the traffic control phasing, any reference to the installation of barrier that requires a non-gating temporary crash cushion must also refer to the installation of the non-gating crash cushion.
3. On traffic control detail sheets, use the appropriate symbology for a non-gating crash cushion and add a note callout reading 'non-gating crash cushion'.

The Work Zone Traffic Control General Notes spreadsheet has been updated to include the note above, and a cell library for Microstation v8i which includes both the non-gating crash cushion cell and the updated plan legend is available on Work Zone Traffic Control's website. The ORD workspace will be updated to include these cells soon.

The pay items TEMPORARY CRASH CUSHIONS (4465000000) and REMOVE & RESET TEMPORARY CRASH CUSHION (4470000000) remain unchanged and there is no change in procedure regarding the pay items and estimated quantities. Both non-gating and gating temporary crash cushions are covered with this pay item.

Sections 1089-8 and 1160 of the NCDOT Standard Specifications have been modified by Standard Special Provision SP11 R06, which needs to be included in any contracts with a temporary crash cushion pay item. This is normally handled by Central Contracts Unit for Raleigh let projects, but Division Project Managers will need to include it in any Division let projects.

TIMELINE

For any project with a scheduled turn-in of May 2026 or later and has temporary crash cushions as a pay item, verify whether there are installations that require non-gating crash cushions. If yes, refer to the RESPONSIBILITY AND IMPLEMENTATION section of this memo and verify you have incorporated those changes before turn-in.

Please contact Karmen Miller, Work Zone Traffic Control Section at (919) 814-5043 for any questions about this guidance. Project-specific applicability and questions should be referred to the Work Zone Traffic Control Section, Senior Project Design Engineers.

Attachments:

SP11 R006 – Temporary crash cushions
Sample TMP Legend with crash cushion (non-gating)
Sample Plan View of non-gating crash cushion callouts

Cc:

NCDOT Project Managers
NCDOT Division Construction Engineers
Jennifer Portanova, State Traffic Engineer
Ron Davenport, State Contract Officer

TEMPORARY CRASH CUSHIONS:

(4-21-26)

1089, 1160

SP11 R06

Page 10-204, Subarticle 1089-8(A) General, lines 26-29, delete the third and fourth paragraph.

Page 10-204, Subarticle 1089-8(A) General, line 34, delete the last sentence of the fifth paragraph.

Page 11-14, Article 1160-2 MATERIALS, lines 32-35, delete the second and third sentence of the first paragraph.

Page 11-15, Article 1160-3 CONSTRUCTION METHODS, add the following after line 1:

Use a redirective, non-gating temporary crash cushion when adequate space for the lateral displacement of the crash cushion is not available or as required in the TMP.

Page 11-15, Article 1160-3 CONSTRUCTION METHODS, line 7, add the following to the second paragraph:

Temporary crash cushion shall not be placed on an unpaved surface.

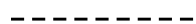
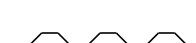
ROADWAY STANDARD DRAWINGS

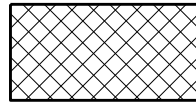
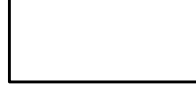
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPs
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - SUPERSTREETS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

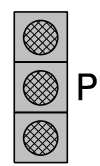
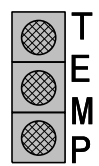
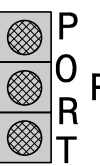
LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  TEMP. SHORING (LOCATION PURPOSES ONLY)

-  WORK AREA
-  REMOVAL
-  USER DEFINED (DELETE IF NOT USED)
-  USER DEFINED (DELETE IF NOT USED)

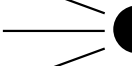
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY
-  PORTABLE

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  TEMPORARY CRASH CUSHION (NON-GATING)
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

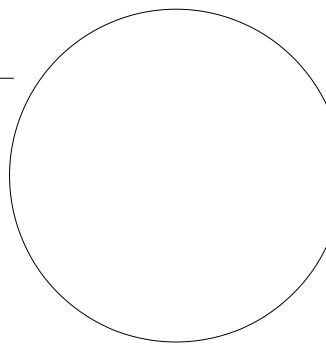
-  PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

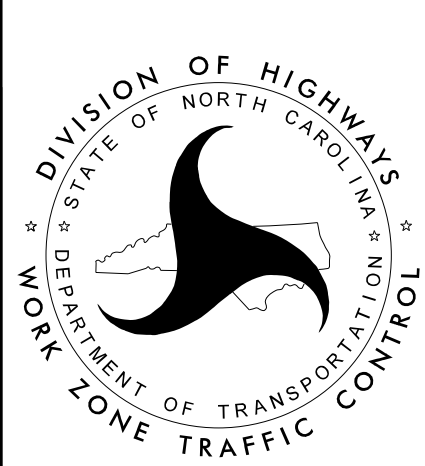
APPROVED: _____

DATE: _____

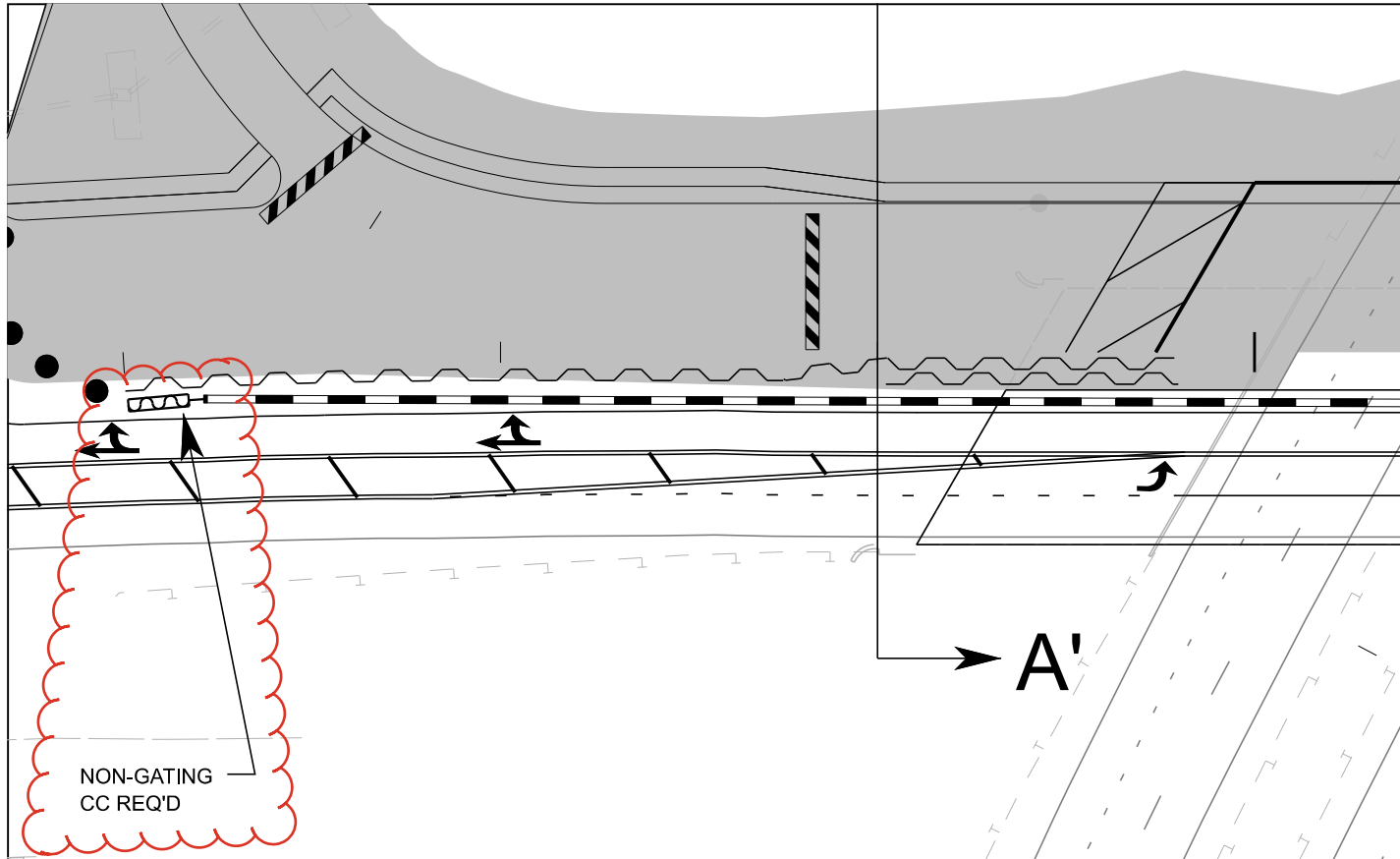
SEAL



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD
DRAWINGS & LEGEND



BR-0168-TC-TMP-03.3-Phase 1 Step 3 (1).dgn 3/11/2026 3:54:46 PM