

National Committee on Uniform Traffic Control Devices

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Item Number: 25B-TTC-01

NCUTCD RECOMMENDATION FOR CHANGES TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

COMMITTEE / TASK FORCE: Temporary Traffic Control Technical Committee
ITEM NUMBER: 25B-TTC-01
TOPIC: Blasting Zones
ORIGIN OF REQUEST: TTC Typical Applications Task Force
AFFECTED SECTIONS OF MUTCD: 6G.11, 6H.25, 6P.01
Table 6G-1, Figure 6G-1, Figure 6P-2

DEVELOPMENT HISTORY:

Approved by TTC TC:06/11/2025, 01/07/2026
Approved by NCUTCD Council:01/08/2026

This is a recommended change to the MUTCD that has been approved by the NCUTCD Council. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, or options. It will be submitted to FHWA for consideration for inclusion in a future MUTCD revision. The MUTCD can be revised only through the federal rulemaking process.

SUMMARY:

Typical Application TA-2, Blasting Zones, depicts a blasting zone adjacent to the highway while traffic flow is maintained, with regulatory TURN OFF 2-WAY RADIO AND CELL PHONE (R22-2) signs in place. The need for the regulatory sign and Typical Application has been eliminated with blasting technology used today.

DISCUSSION:

Signing to warn of blasting zones and to advise motorists to turn off two-way radios first appeared in the MUTCD in the 1971 edition. The Blasting Zones Typical Application TA-2 was first introduced in the 1988 Edition of the MUTCD, Revision 3 dated September 3, 1993 which was a stand-alone version of Part VI Standards and Guidelines for Traffic Controls for Street and Highway Construction, Maintenance, Utility, and Incident Management Operations.

TA-2 has remained unchanged since 2000, with the exception that in the 11th Edition MUTCD FHWA changed the TURN OFF 2-WAY RADIO AND CELL PHONE (R22-2) sign from a warning sign (orange background) to a regulatory sign (white background). In the NPA, FHWA explained that they took this action "because the sign is requiring an action and not warning about a hazard." However, most blasting operations now use modern blasting caps that are incapable of being prematurely detonated by Radiofrequency (RF) interference. If a blasting operation is still using older blasting caps where RF interference is a concern due to proximity to the travel space, then it is not reasonable to expect the R22-2 sign to eliminate risk of premature

39 detonation. In these instances, the blasting contractor would need to shut down traffic in both
40 directions.

41
42 TTC members met with the Institute of Makers of Explosives (IME) in January 2025 to discuss
43 this TA-2. Below is a summary of the discussion:

- 44 • In decades past, blasting caps were electric devices that could be susceptible to premature
45 detonation by RF interference. However, the only documented cases were from workers
46 carrying RF devices within the immediate vicinity, not a passing motorist from hundreds of
47 feet away.
- 48 • Most blasting contractors have switched to blasting caps that are incapable of being
49 prematurely detonated (either “shock tube” devices that are immune to RF interference, or
50 digital devices that fail-safe to off). However, there may still be some contractors that still
51 use the older styles of blasting caps.
- 52 • Most passing motorists are likely using devices well below the RF danger thresholds. TA-2
53 was first developed at a time when first-generation cell phones emitted much greater RF
54 levels than the current generation. However there remains a possibility that passing road
55 users are using other, less common devices with larger RF radius.
- 56 • If a blasting operation was using older-style blasting caps and there was a possibility
57 (however remote) of premature detonation due to RF interference from devices of passing
58 road users, then it is unrealistic to expect the R22-2 sign to be successful in inducing all
59 passing road users to turn off their devices. The “regulation” on the R22-2 sign is difficult at
60 best for law enforcement to enforce. Therefore, in this scenario, the blasting contractor
61 would need to shut down traffic in both directions.
- 62 • The BLASTING ZONE AHEAD (W22-1) sign should remain in the MUTCD, as there are
63 situations where the blasting operation does not require traffic to be stopped, but there is still
64 potential for drivers to get startled by the blast.
- 65 • IME recommended practices reference MUTCD standards, however they are also interested
66 in updating their standards. They supported TTC Technical Committee’s efforts to
67 recommend MUTCD updates.

68
69 Therefore, this recommended change:

- 70 • Eliminates the R22-2 sign in tables, text and figures from CHAPTER 6G. TTC ZONE
71 REGULATORY SIGNS.
- 72 • Revises the conditions for when the BLASTING ZONE AHEAD (W22-1) and END
73 BLASTING ZONE (W22-3) signs are used.
- 74 • Reduces the requirement for the END BLASTING ZONE sign from a standard to an option
75 (consistent with MUTCD policies for the END ROAD WORK sign).
- 76 • Removes Figure 6P-2 – Typical Application 2, Blasting Zone, and notes from Section 6P.01
77 Typical Applications.

78
79 On June 4, 2025, the Institute of Makers of Explosives (IME) provided written concurrence with
80 this recommended change: “IME concurs with this proposal and the changes to the MUTCD
81 therein.” This was communicated by Joshua Hoffman, Ph.D., P.E., Sr. Director, Scientific and
82 Regulatory Affairs, Institute of Makers of Explosives (IME).

RECOMMENDED MUTCD CHANGES:

The following present the proposed changes to the current MUTCD within the context of the current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background comments may be provided with the MUTCD text. These comments are indicated by bracketed white text in shaded green.

PART 6

TEMPORARY TRAFFIC CONTROL

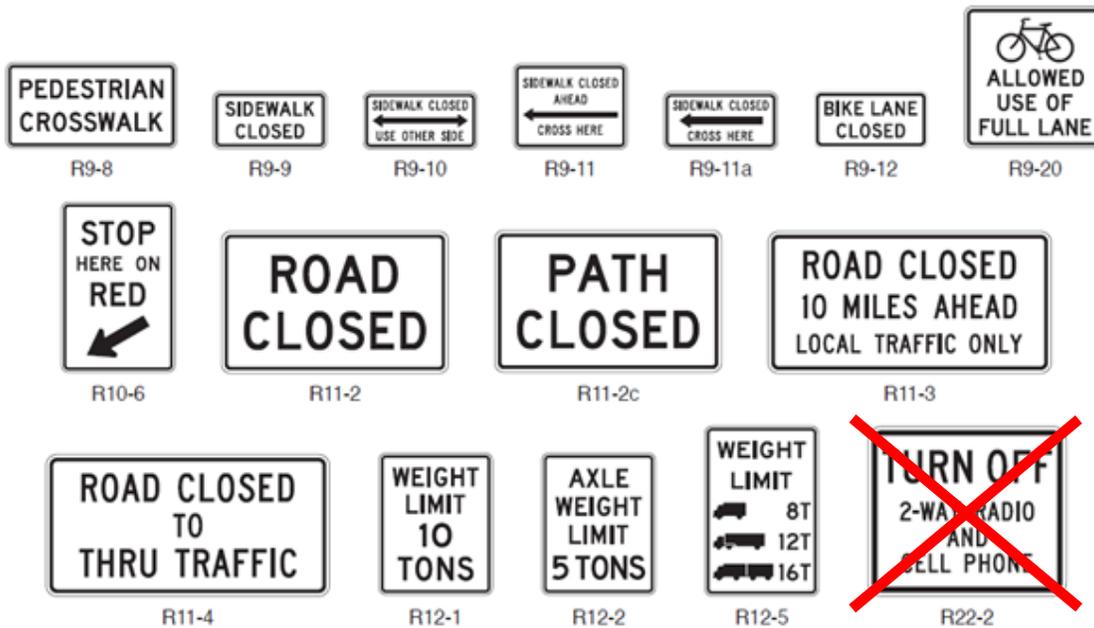
CHAPTER 6G. TTC ZONE REGULATORY SIGNS

Table 6G-1. Temporary Traffic Control Zone Regulatory Sign and Plaque Sizes

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway	Minimum
Turn off 2-Way Radio and Cell Phone	R22-2	6G-11	42 x 36	42 x 36	-

Only the sign changed by this ballot item is shown

Figure 6G-1. Regulatory Signs and Plaques in Temporary Traffic Control Zones (Sheet 2 of 2)



105 ~~Section 6G.11 TURN OFF 2-WAY RADIO AND CELL PHONE Sign (R22-2)~~

106 ~~Standard:~~

107 ~~01 — The TURN OFF 2-WAY RADIO AND CELL PHONE (R22-2) sign (see Figure 6G-1) shall be~~
108 ~~used to require road users to turn off mobile radio transmitters and cellular telephones where~~
109 ~~blasting operations occur.~~

110 ~~Support:~~

111 ~~02 — Section 6H.25 contains information about the full sequence of signs for blasting zones and the~~
112 ~~specific requirements for location of this regulatory sign.~~

113

114 **CHAPTER 6H. TTC ZONE WARNING SIGNS**

115

116 **Section 6H.25 Signs for Blasting Areas**

117 ~~Support:~~

118 ~~01 — Radio Frequency (RF) energy can cause the premature firing of electric detonators (blasting caps)~~
119 ~~used in TTC zones.~~

120 ~~Standard:~~

121 ~~02 — Road users shall be warned where blasting operations occur. A sequence of signs shall be~~
122 ~~prominently displayed to warn all road users of blasting operations and to direct operators of~~
123 ~~mobile radio equipment, including cellular telephones, to turn off transmitters in a blasting area.~~
124 ~~These signs shall be covered or removed when there are no explosives in the area or the area is~~
125 ~~otherwise secured.~~

126 ~~03 — The BLASTING ZONE AHEAD (W22-1) sign (see Figure 6H-1) shall be used in advance of any~~
127 ~~TTC zone where explosives are being used. The TURN OFF 2-WAY RADIO AND CELL PHONE~~
128 ~~(R22-2) and END BLASTING ZONE (W22-3) signs shall be used in sequence with this sign.~~

129 ~~04 — The TURN OFF 2-WAY RADIO AND CELL PHONE (R22-2) sign (see Section 6G.11 and~~
130 ~~Figure 6G-1) shall follow the BLASTING ZONE AHEAD (W22-1) sign and shall be placed at least~~
131 ~~1,000 feet before the beginning of the blasting zone.~~

132 ~~05 — The END BLASTING ZONE (W22-3) sign (see Figure 6H-1) shall be placed a minimum of~~
133 ~~1,000 feet past the blasting zone.~~

134 Guidance:

135 05a The BLASTING ZONE AHEAD (W22-1) sign should be used in advance of any TTC zone where road
136 users need advance warning of blasting operations that will be occurring while traffic is allowed to
137 proceed on that road.

138 Standard:

139 05b The BLASTING ZONE AHEAD (W22-1) sign shall be covered or removed during times when
140 blasting operations are not occurring.

141 Option:

142 06 The END BLASTING ZONE (W22-3) sign may be used downstream of the blasting zone area.
143 placed either with or preceding the END ROAD WORK sign.

144 Support:

145 06a The Institute of Makers of Explosives (IME) publishes safety guidance on Radio Frequency (RF)
146 interference and safe blasting procedures.

147

148 CHAPTER 6P. TYPICAL APPLICATIONS

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150 Section 6P.01 Typical Applications

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152 [Portion of Table 6P-1 from 24B-TTC-01 approved by NCUTCD Council on 01/09/2025.]

153 Table 6P-1. Index to Typical Applications

Typical Application Description	Sign Designation
Work <u>On the Shoulder</u> or Outside of the Shoulder (see Section 6N.05 <u>6P.03</u>)	
Work <u>Beyond Outside</u> the Shoulder	TA-1
Blasting Zone	TA-2

154

155

156 ~~Notes for Figure 6P-2—Typical Application 2~~

157 ~~Blasting Zone~~

158 ~~Standard:~~

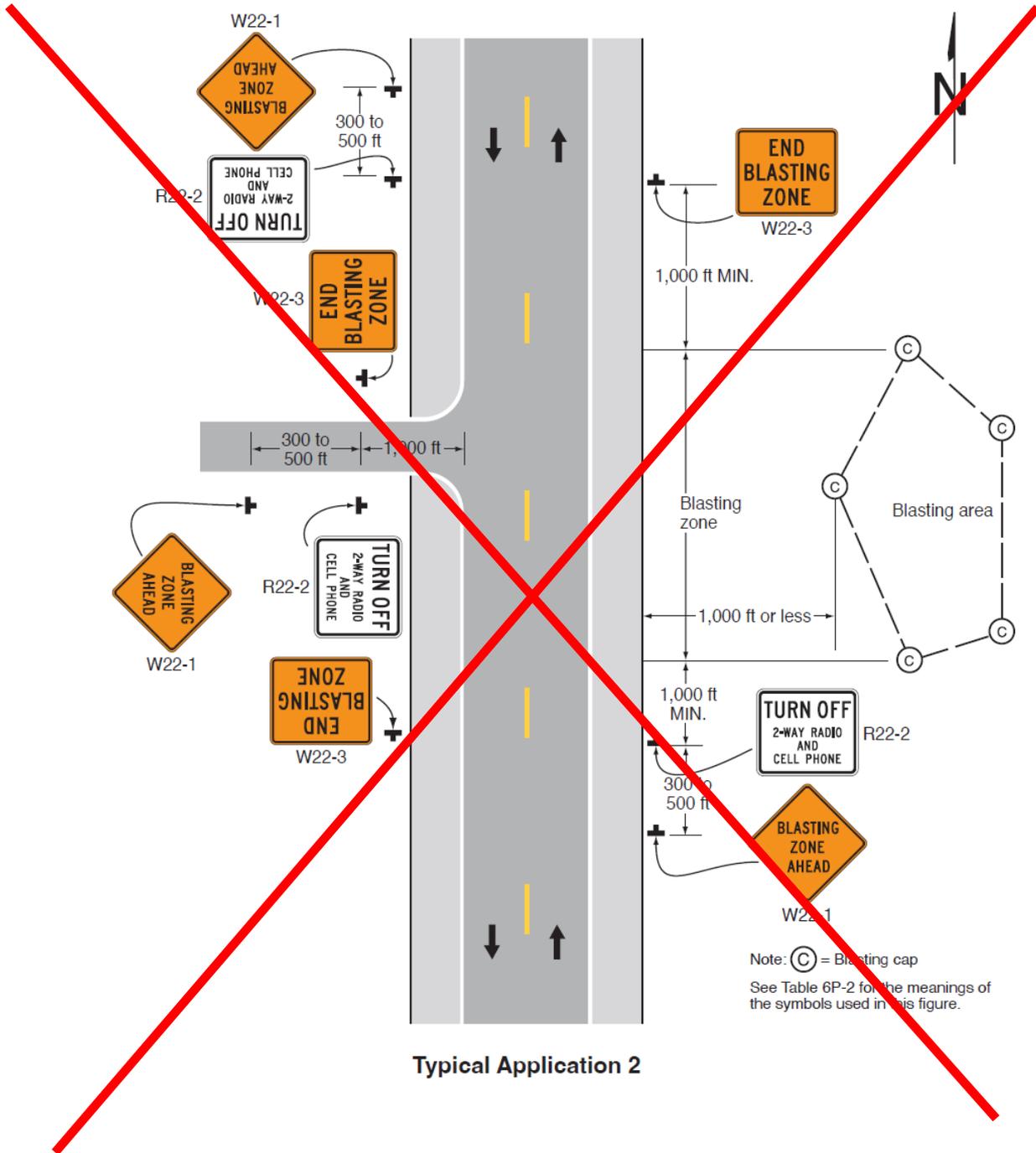
- 159 ~~1.—Whenever blasting caps are used within 1,000 feet of a roadway, the signing shown shall be~~
- 160 ~~used.~~
- 161 ~~2.—The signs shall be covered or removed when there are no explosives in the area or the area is~~
- 162 ~~otherwise secure.~~
- 163 ~~3.—Whenever a side road intersects the roadway between the BLASTING ZONE AHEAD sign~~
- 164 ~~and the END BLASTING ZONE sign, or a side road is within 1,000 feet of any blasting cap,~~
- 165 ~~similar signing, as on the mainline, shall be installed on the side road.~~
- 166 ~~4.—Prior to blasting, the blaster in charge shall determine whether road users in the blasting~~
- 167 ~~zone will be endangered by the blasting operation. If there is danger, road users shall not be~~
- 168 ~~permitted to pass through the blasting zone during blasting operations.~~

169 ~~Guidance:~~

- 170 ~~5.—On a divided highway, the signs should be mounted on both sides of the directional roadways.~~

171

Figure 6P-2. Blasting Zone (TA-2)



Typical Application 2