CITY OF MONTEREY
TRAFFIC CONTROL PLAN (TCP) REQUIREMENTS

Please ensure that you have all the information below in your TCP before submitting it for review. Any incomplete TCP will be rejected.

☐ All Traffic Control Plans must follow the 2014 California Manual for Uniform Traffic Control Devices (CA MUTCD), chapter 6. Examples can be found here: https://dot.ca.gov/programs/traffic-operations/camutcd

☐ The contractor must submit a TCP using legible lettering. Show location and dimensions of the work zone, lanes, tapers, sign spacing, parking and any staging area.

☐ Label streets and proposed traffic control area. Show all nearby streets with street names to assure proper orientation.

☐ Show all affected sidewalks, crosswalks, bike lanes, parking, driveways and intersections in the construction work zone including areas affected by taper transition.

☐ If a sidewalk or path is obstructed, you must submit an ADA compliant pedestrian detour plan. CAMUTCD Chapter 6D and Public Rights-of-Way Accessibility Guidelines (PROWAG). Please refer to:
https://www.fhwa.dot.gov/indiv/docs/atssa_pedestrian_checklist.pdf

☐ Label all taper lengths and widths, delineator spacing and sign spacing. Indicate location of construction signs, barricades, and delineators. Please see Traffic Control Binder or website for calculation of tapers.
L – lane closure (merging lanes of traffic)
L/2 – shift (traffic does not merge, just shifts)
L/3 – Work on shoulder or parking (not on travel lane)
50’ to 100’ – One lane, two way traffic taper (flaggers)

☐ Show all parking restriction zones and signs, as appropriate. Call Parking Office at 831-646-3953 if restricting parking in time-limit or metered zones. Temporary "NO PARKING" signs shall be posted 72 hours prior to start of work.

☐ Indicate on the plan the duration of the construction work, date and times.

☐ Indicate contractor’s name, address, email and telephone number. Include name and telephone number of the 24-hour contact person representing the contractor.

TRAFFIC CONTROL GENERAL NOTES:

It is the contractor's responsibility to assure that all traffic control plans and traffic control devices are in compliance with the CAMUTCD standards.

Minimum width of temporary traffic lane is 10 feet clear (from delineator or cone base, not center).

The City Traffic Engineer or his representative has the authority to make any field changes to assure public safety.

All traffic control devices shall be removed from view when not in use, signs should not be facing traffic when not in use. All temporary traffic delineation used shall be thirty-six inches (36") tall minimum (delineators or cones), retroreflective bands are required. Spacing of channelizing devices should not exceed 25'.

Any work that creates an undue safety risk or creates severe congestion may be shut down by the City Traffic Engineer, their representative, Field Inspector or Police Department personnel.

Any road closure also requires notification be provided to the Fire Department, as well as the Police Department. Notifications can be made at the non emergency number at 831-646-3914.

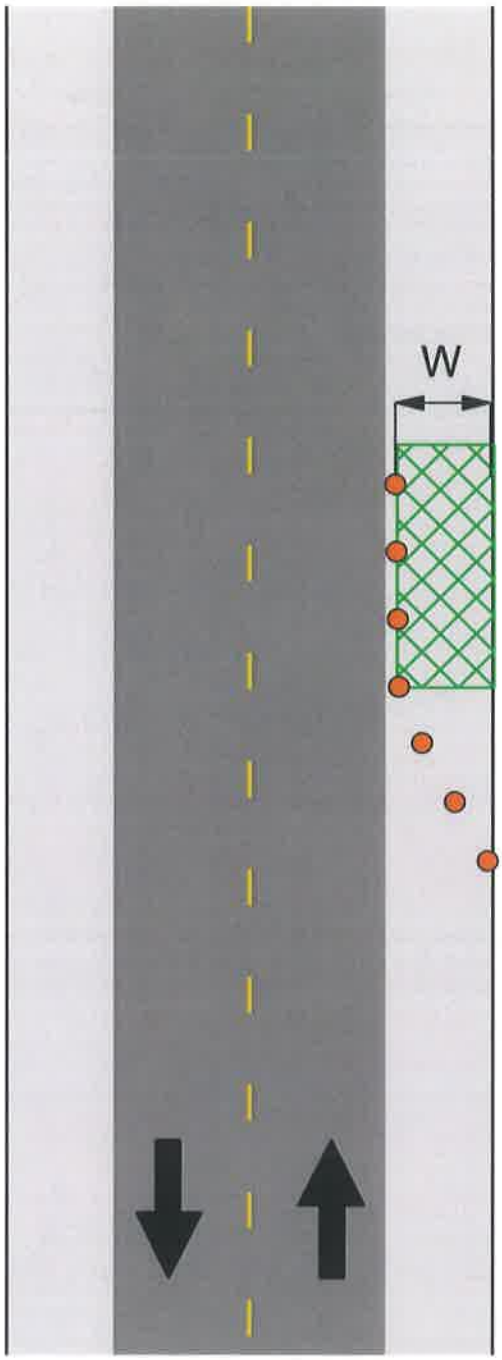
Any work that disturbs normal traffic signal operations shall be coordinated with the Streets Division and City Traffic Engineer. A request to place a signalized intersection on flash shall be authorized by the City Traffic Engineer or their representative and coordinated with the Streets Department.

The Contractor is responsible for restoring the road back to satisfactory condition including, but not limited to, paving, striping, markings and signs within five (5) calendar days of completion of work at affected intersections or road segments.

Vehicle detectors and pedestrian push-buttons shall remain in effective operation at all times during the progress of the work on an existing actuated traffic signal system. Vehicle detectors or pedestrian push-buttons taken out of service shall be repaired or replaced within 72 hours unless otherwise authorized by the City Traffic Engineer. Where worksite conditions do not permit the installation of permanent vehicle detectors within 72 hours, temporary vehicle detectors or vehicle detection cameras shall be installed, at the Contractor's expense, as directed by the City Traffic Engineer. Permanent vehicle detectors shall be installed as soon as worksite conditions permit.

The following Traffic Control pages are for illustration purposes only, it is the contractor's responsibility to ensure that TCPs are compliant with the latest version of the CAMUTCD.

Shoulder Taper



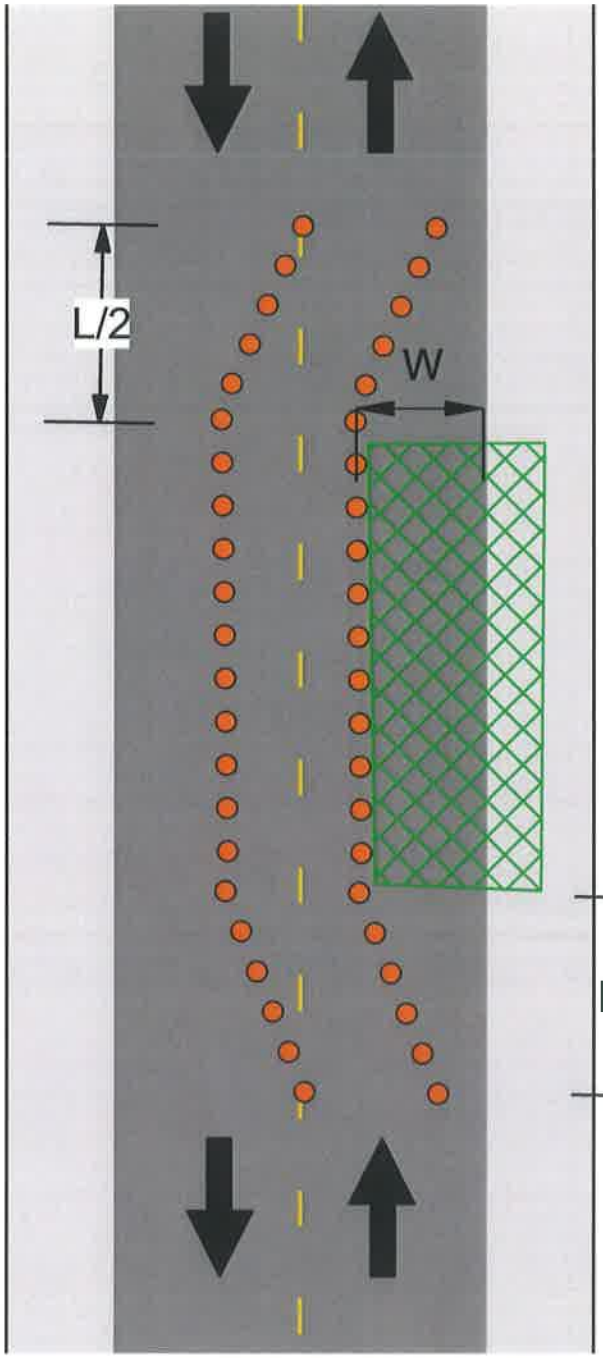
L = Taper Length
S = Posted Speed
W = Displacement Width

$$L = \frac{W \times S \times S}{60}$$

(40 mph or less)

Shoulder Taper $\frac{W \times S \times S}{180}$

Shift Taper



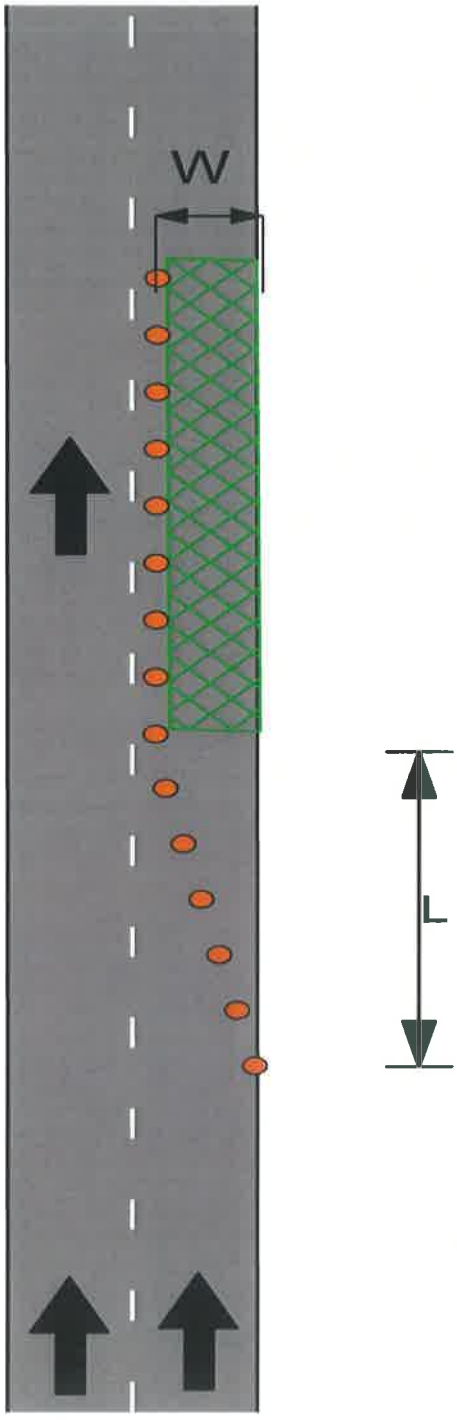
L = Taper Length
S = Posted Speed
W = Displacement Width

$$L = \frac{W \times S \times S}{60}$$

(40 mph or less)

Shift Taper $\frac{W \times S \times S}{120}$

Merge Taper



L = Taper Length
S = Posted Speed
W = Displacement Width

$$L = \frac{W \times S \times S}{60}$$

(40 mph or less)

Table 6C-3(CA). Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (W)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)***
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50
75	900	450	300	50

* - Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

** - For other offsets use the following merging taper length formula for L:

For speeds of 40 mph or less, $L=WS^2/60$

For speeds of 45 mph or more, $L=WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

*** - Maximum downstream taper length is 100 feet. See Section 6C.08.

Table 6C-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

Figure 6C-1. Component Parts of a Temporary Traffic Control Zone

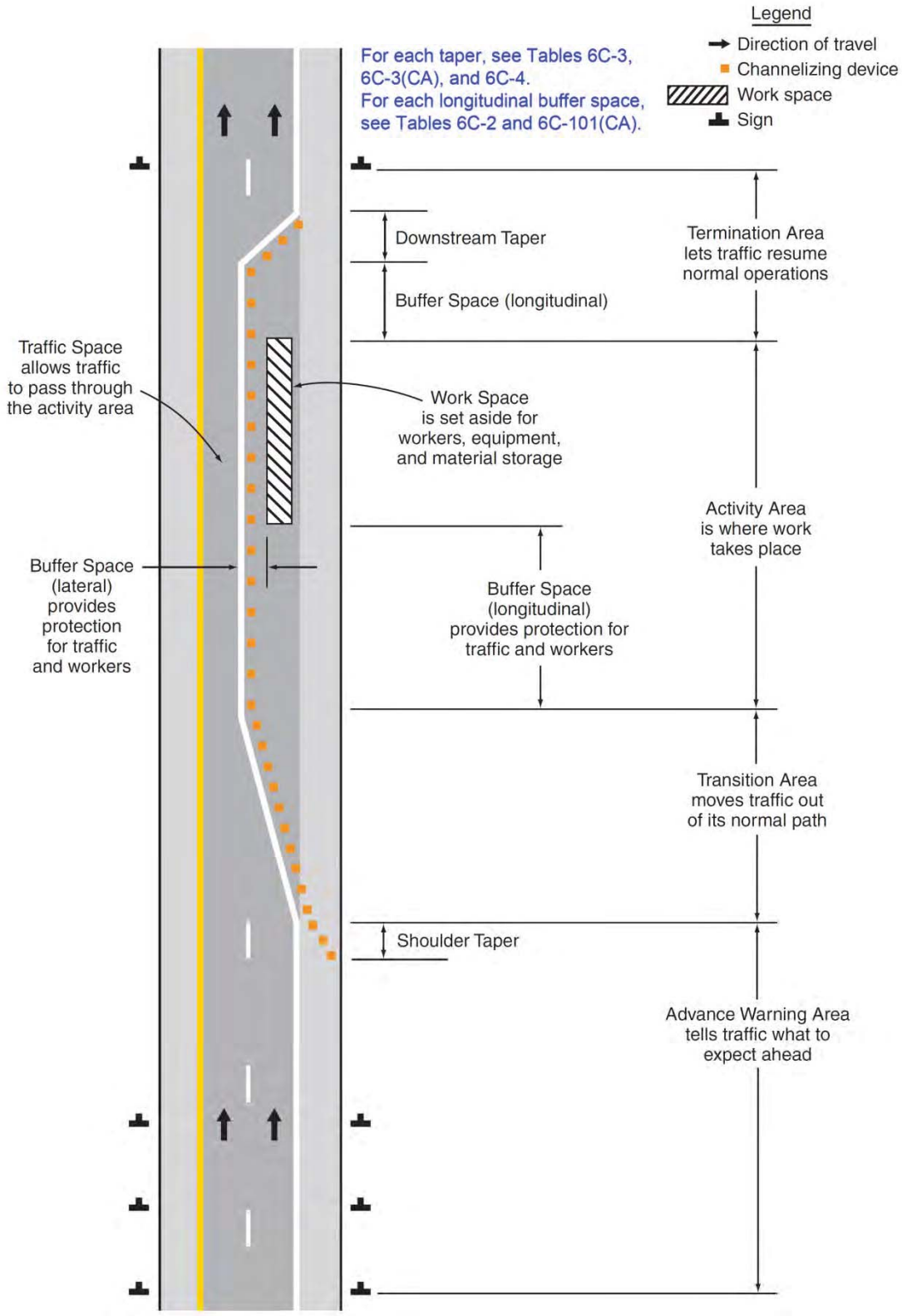


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Figure 6C-2. Types of Tapers and Buffer Spaces

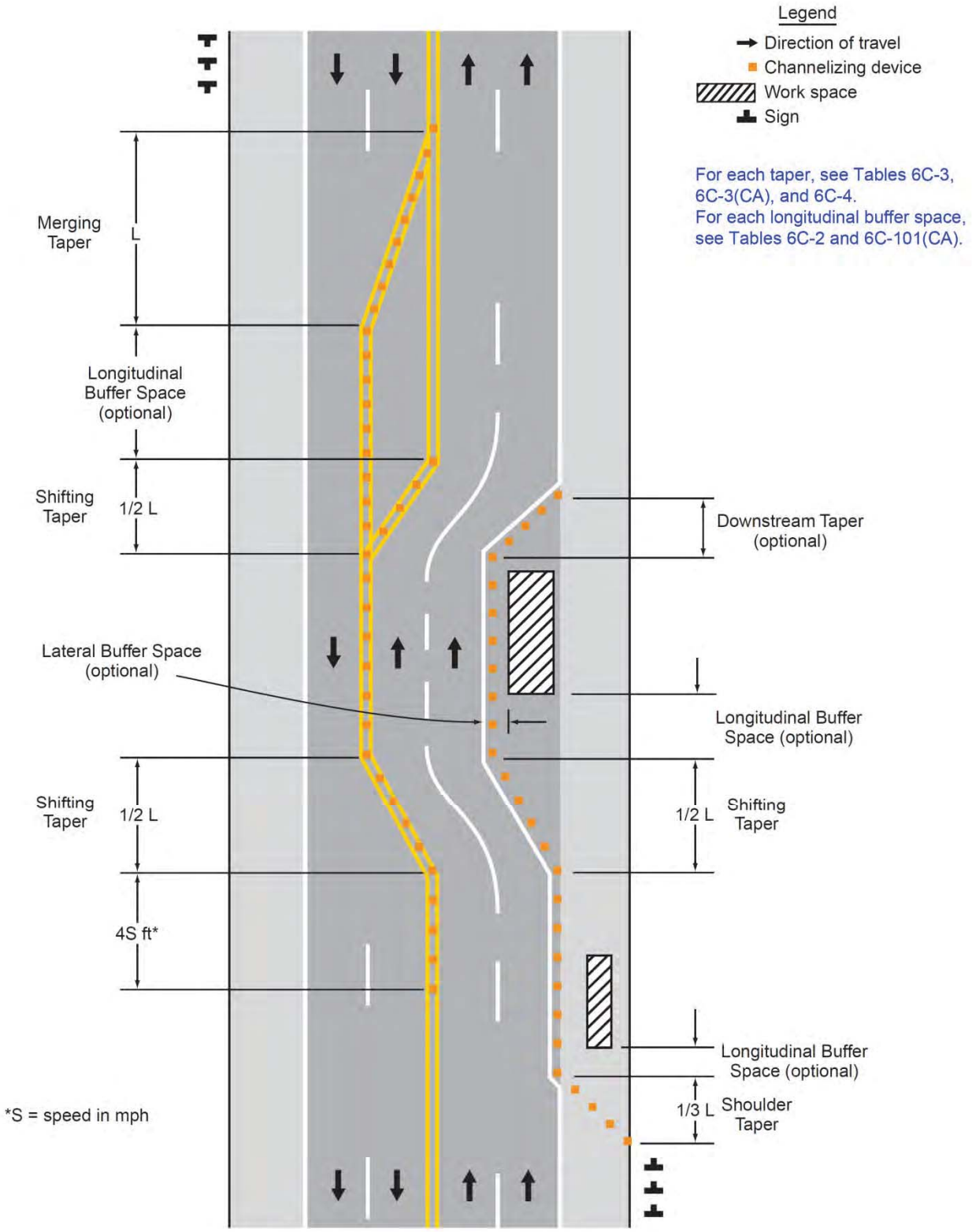
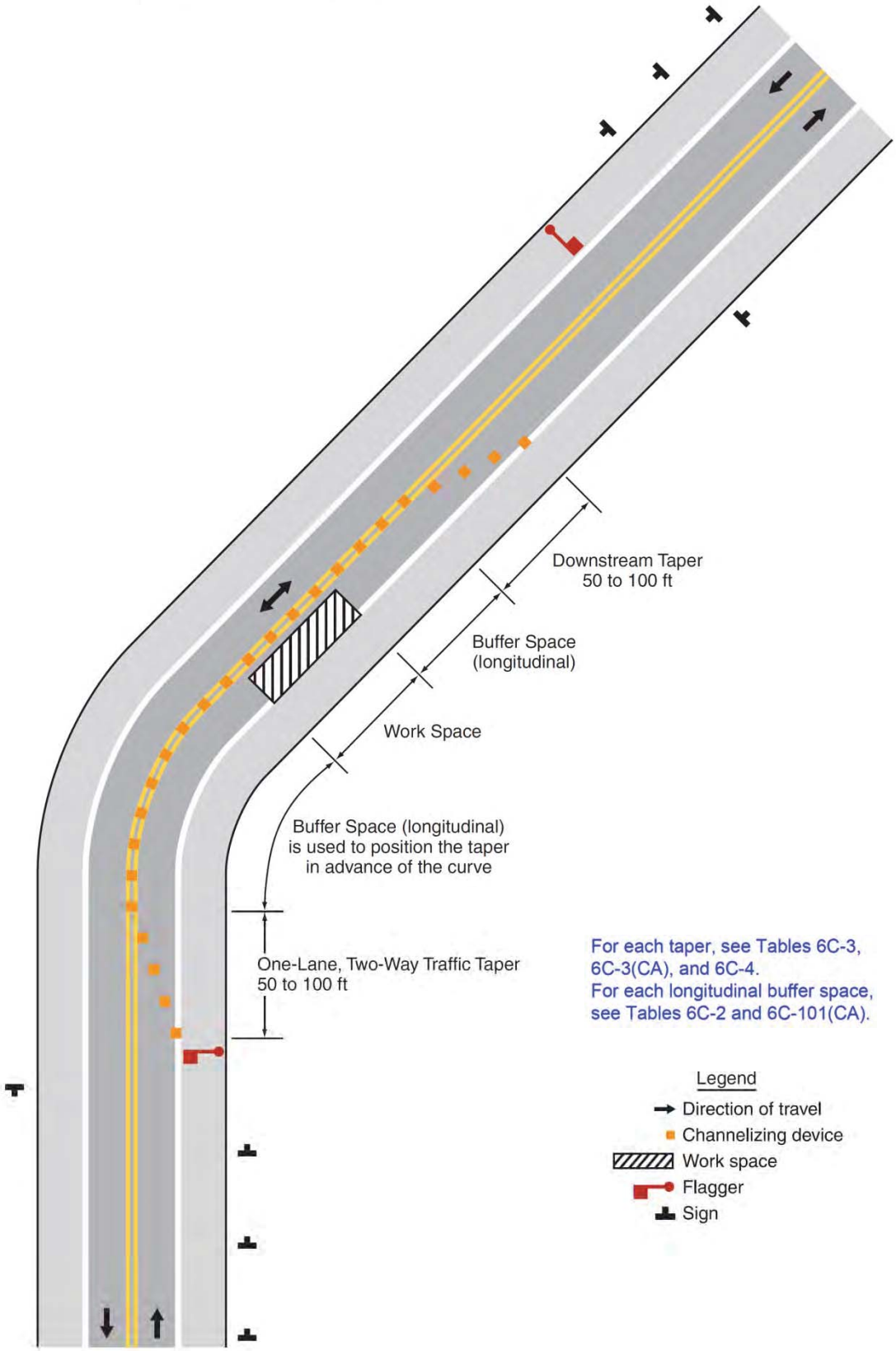


Figure 6C-3. Example of a One-Lane, Two-Way Traffic Taper



CHAPTER 6G. TYPE OF TEMPORARY TRAFFIC CONTROL ZONE ACTIVITIES

Section 6G.01 Typical Applications

Support:

01 Each TTC zone is different. Many variables, such as location of work, highway type, geometrics, vertical and horizontal alignment, intersections, interchanges, road user volumes, road vehicle mix (buses, trucks, and cars), and road user speeds affect the needs of each zone. The goal of TTC in work zones is safety with minimum disruption to road users. The key factor in promoting TTC zone safety is proper judgment.

02 Typical applications (TAs) of TTC zones are organized according to duration, location, type of work, and highway type. Table 6H-1 is an index of these typical applications. These typical applications include the use of various TTC methods, but do not include a layout for every conceivable work situation.

03 Well-designed TTC plans for planned special events will likely be developed from a combination of treatments from several of the typical applications.

Guidance:

04 *For any planned special event that will have an impact on the traffic on any street or highway, a TTC plan should be developed in conjunction with and be approved by the agency or agencies that have jurisdiction over the affected roadways.*

05 *Typical applications should be altered, when necessary, to fit the conditions of a particular TTC zone.*

Option:

06 Other devices may be added to supplement the devices shown in the typical applications, while others may be deleted. The sign spacings and taper lengths may be increased to provide additional time or space for driver response.

Support:

07 Decisions regarding the selection of the most appropriate typical application to use as a guide for a specific TTC zone require an understanding of each situation. Although there are many ways of categorizing TTC zone applications, the four factors mentioned earlier (work duration, work location, work type, and highway type) are used to characterize the typical applications illustrated in Chapter 6H.

Section 6G.02 Work Duration

Support:

01 Work duration is a major factor in determining the number and types of devices used in TTC zones. The duration of a TTC zone is defined relative to the length of time a work operation occupies a spot location.

Standard:

02 **The five categories of work duration and their time at a location shall be:**

A. Long-term stationary is work that occupies a location more than 3 days.

B. Intermediate-term stationary is work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.

C. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.

D. Short duration is work that occupies a location up to 1 hour.

E. Mobile is work that moves intermittently or continuously.

Support:

03 At long-term stationary TTC zones, there is ample time to install and realize benefits from the full range of TTC procedures and devices that are available for use. Generally, larger channelizing devices, temporary roadways, and temporary traffic barriers are used.

Standard:

04 **Since long-term operations extend into nighttime, retroreflective and/or illuminated devices shall be used in long-term stationary TTC zones.**

Guidance:

05 *Inappropriate markings in long-term stationary TTC zones should be removed and replaced with temporary markings.*

Table 6H-1. Index to Typical Applications

Typical Application Description	Typical Application Number
Work Outside of the Shoulder (see Section 6G.06)	
Work Beyond the Shoulder	TA-1
Blasting Zone	TA-2
Work on the Shoulder (see Sections 6G.07 and 6G.08)	
Work on the Shoulders	TA-3
Short Duration or Mobile Operation on a Shoulder	TA-4
Shoulder Closure on a Freeway	TA-5
Shoulder Work with Minor Encroachment	TA-6
Work Within the Traveled Way of a Two-Lane Highway (see Section 6G.10)	
Road Closed with a Diversion	TA-7
Roads Closed with an Off-Site Detour	TA-8
Overlapping Routes with a Detour	TA-9
Lane Closure on a Two-Lane Road Using Flaggers	TA-10
Lane Closure on a Two-Lane Road with Low Traffic Volumes	TA-11
Lane Closure on a Two-Lane Road Using Traffic Control Signals	TA-12
Temporary Road Closure	TA-13
Haul Road Crossing	TA-14
Work in the Center of a Road with Low Traffic Volumes	TA-15
Surveying Along the Center Line of a Road with Low Traffic Volumes	TA-16
Mobile Operations on a Two-Lane Road	TA-17
Work Within the Traveled Way of an Urban Street (see Section 6G.11)	
Lane Closure on a Minor Street	TA-18
Detour for One Travel Direction	TA-19
Detour for a Closed Street	TA-20
Work Within the Traveled Way at an Intersection and on Sidewalks (see Section 6G.13)	
Lane Closure on the Near Side of an Intersection	TA-21
Right-Hand Lane Closure on the Far Side of an Intersection	TA-22
Left-Hand Lane Closure on the Far Side of an Intersection	TA-23
Half Road Closure on the Far Side of an Intersection	TA-24
Multiple Lane Closures at an Intersection	TA-25
Closure in the Center of an Intersection	TA-26
Closure at the Side of an Intersection	TA-27
Sidewalk Detour or Diversion	TA-28
Crosswalk Closures and Pedestrian Detours	TA-29
Work Within the Traveled Way of a Multi-Lane, Non-Access Controlled Highway (see Section 6G.12)	
Interior Lane Closure on a Multi-Lane Street	TA-30
Lane Closure on a Street with Uneven Directional Volumes	TA-31
Half Road Closure on a Multi-Lane, High-Speed Highway	TA-32
Stationary Lane Closure on a Divided Highway	TA-33
Lane Closure with a Temporary Traffic Barrier	TA-34
Mobile Operation on a Multi-Lane Road	TA-35
Work Within the Traveled Way of a Freeway or Expressway (see Section 6G.14)	
Lane Shift on a Freeway	TA-36
Double Lane Closure on a Freeway	TA-37
Interior Lane Closure on a Freeway	TA-38
Median Crossover on a Freeway	TA-39
Median Crossover for an Entrance Ramp	TA-40
Median Crossover for an Exit Ramp	TA-41
Work in the Vicinity of an Exit Ramp	TA-42
Partial Exit Ramp Closure	TA-43
Work in the Vicinity of an Entrance Ramp	TA-44
Temporary Reversible Lane Using Movable Barriers	TA-45
Work in the Vicinity of a Grade Crossing (see Section 6G.18)	
Work in the Vicinity of a Grade Crossing	TA-46

Table 6H-1(CA). Index to Typical Applications

Typical Application Description	Typical Application Number
Work affecting Pedestrian and Bicycle Facilities (see Section 6G.05)	
Shoulder Closure on Urban (Low Speed) Locations to Accommodate Bicyclists	TA-101(CA)
Lane Closure on Freeway, Expressway, Rural and Urban (High Speed) Locations to Accommodate Bicyclists	TA-102(CA)
Detour for Bike Lane on Roads with Closure of One Travel Direction	TA-103(CA)
Right Lane and Bike Lane Closure on Far Side of Intersection	TA-104(CA)
Work Within the Traveled Way of a Two-Lane Highway (see Section 6G.10)	
Lane Shift on Road with Low Traffic Volumes	TA-105(CA)

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

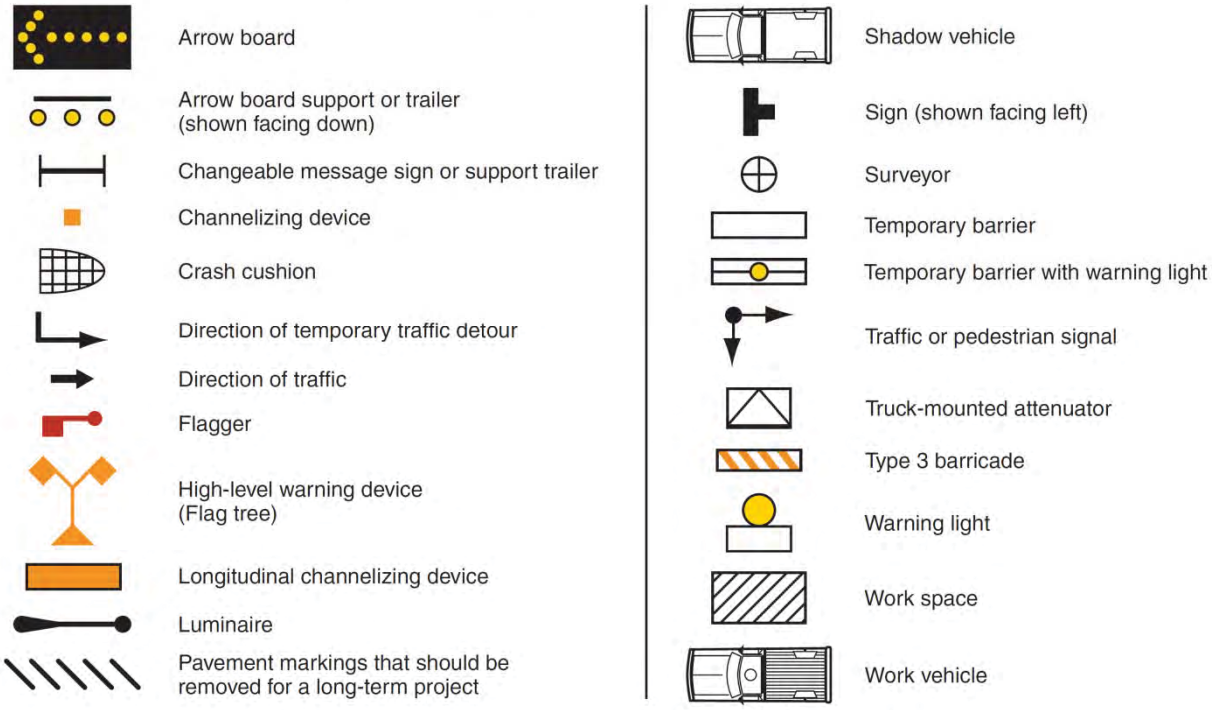


Table 6H-3. Recommended Advance Warning Sign ~~Minimum~~ Spacing

Road Type	Distance Between Signs**		
	A	B	C
Urban ~~(low speed)~~ - 25 mph or less***	100 feet	100 feet	100 feet
Urban - more than 25 mph to 40 mph***	250 feet	250 feet	250 feet
Urban ~~(high speed)~~ - more than 40 mph***	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

* ~~Speed category to be determined by the highway agency.~~

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

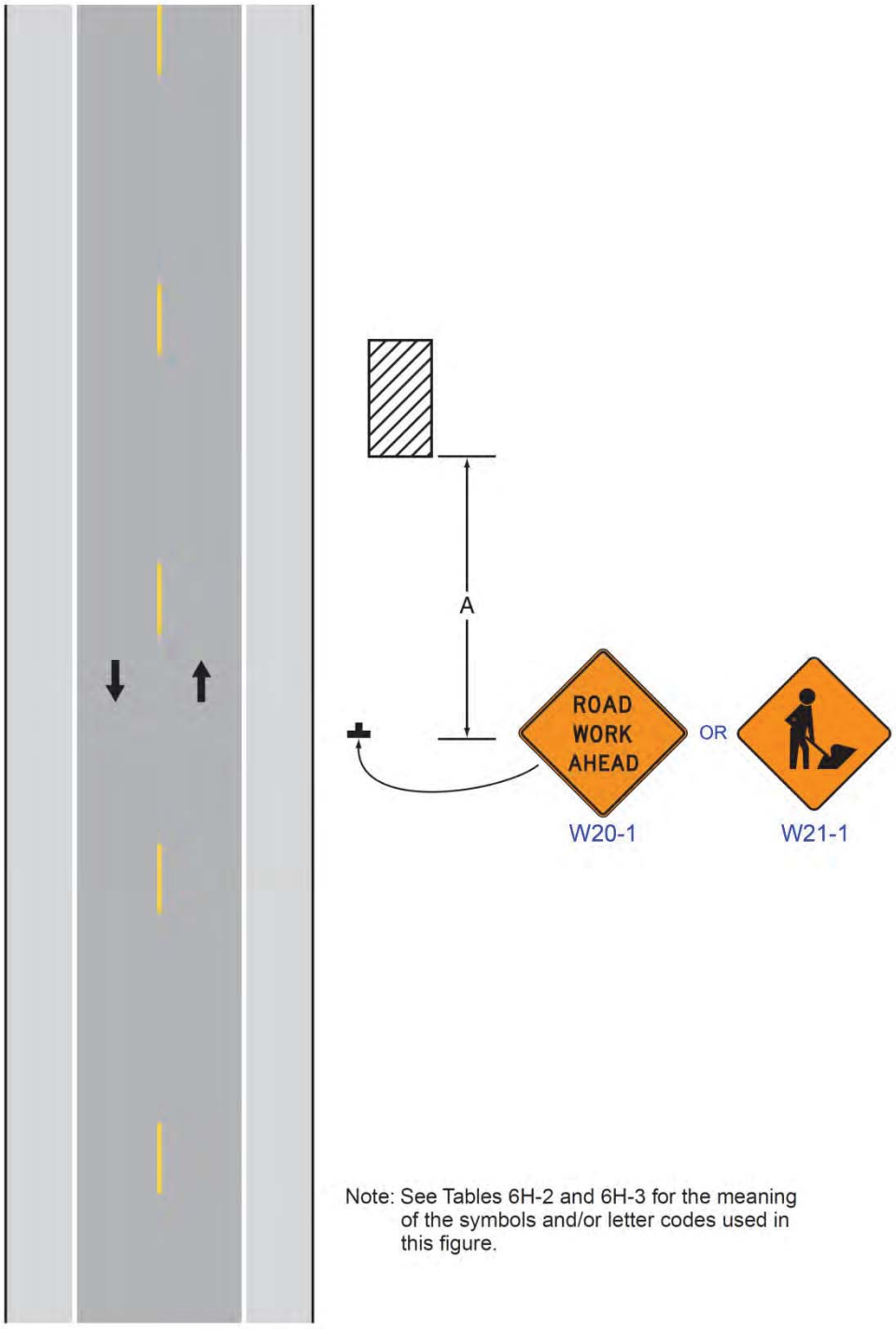
*** Posted speed limit, off-peak 85th-percentile speed prior to work starting, or other anticipated operating speed in mph.

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

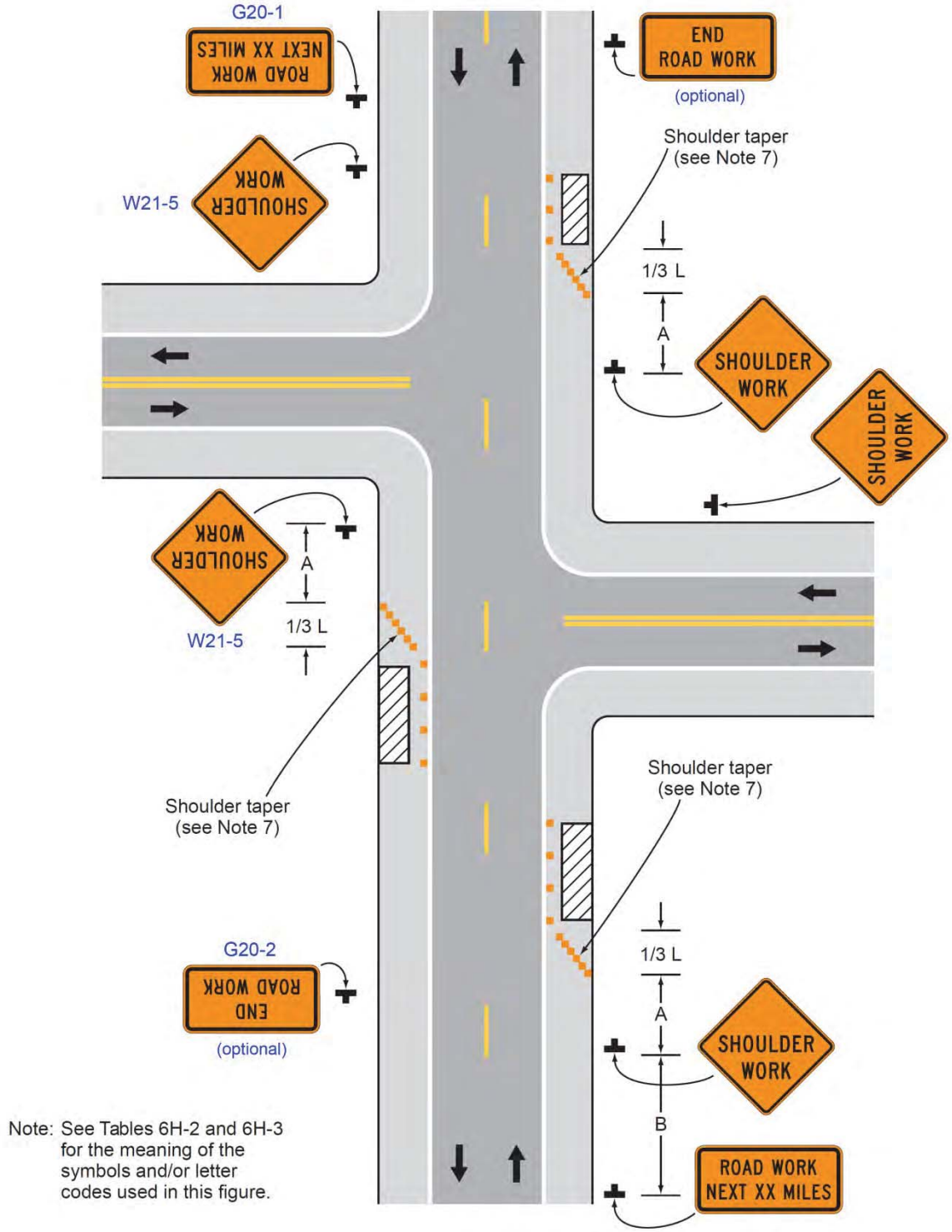
Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

Figure 6H-1. Work Beyond the Shoulder (TA-1)



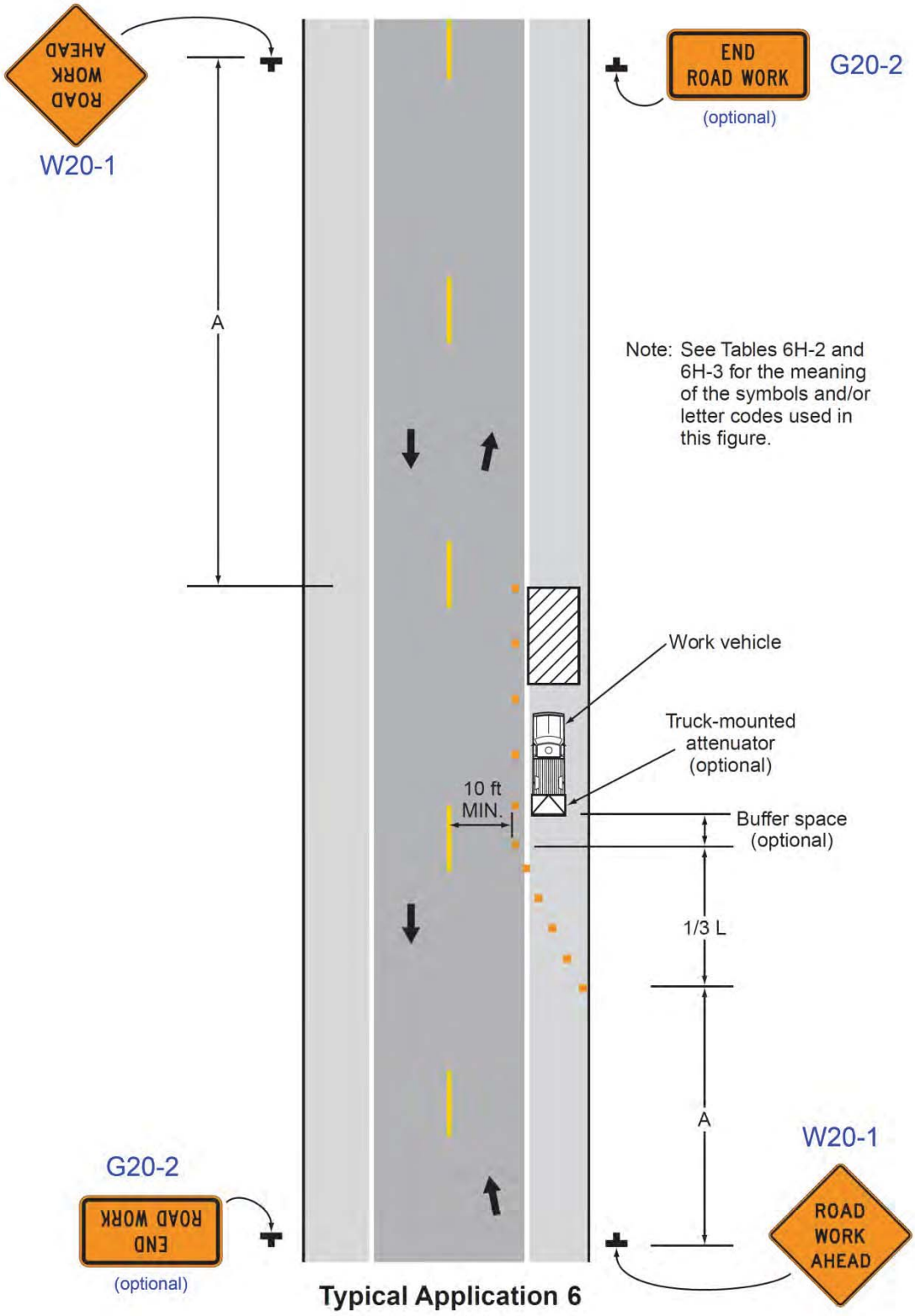
Typical Application 1

Figure 6H-3. Work on the Shoulders (TA-3)



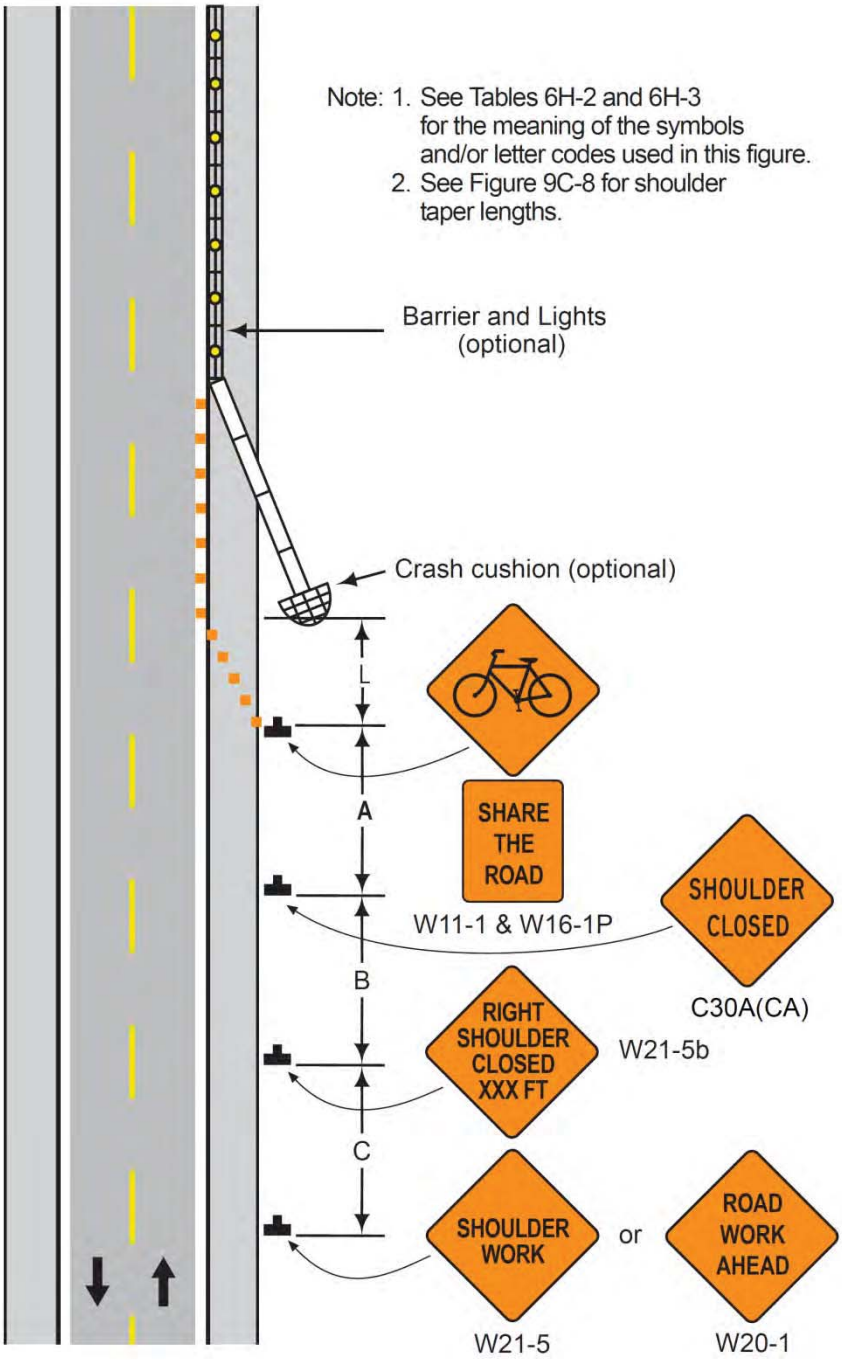
Typical Application 3

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



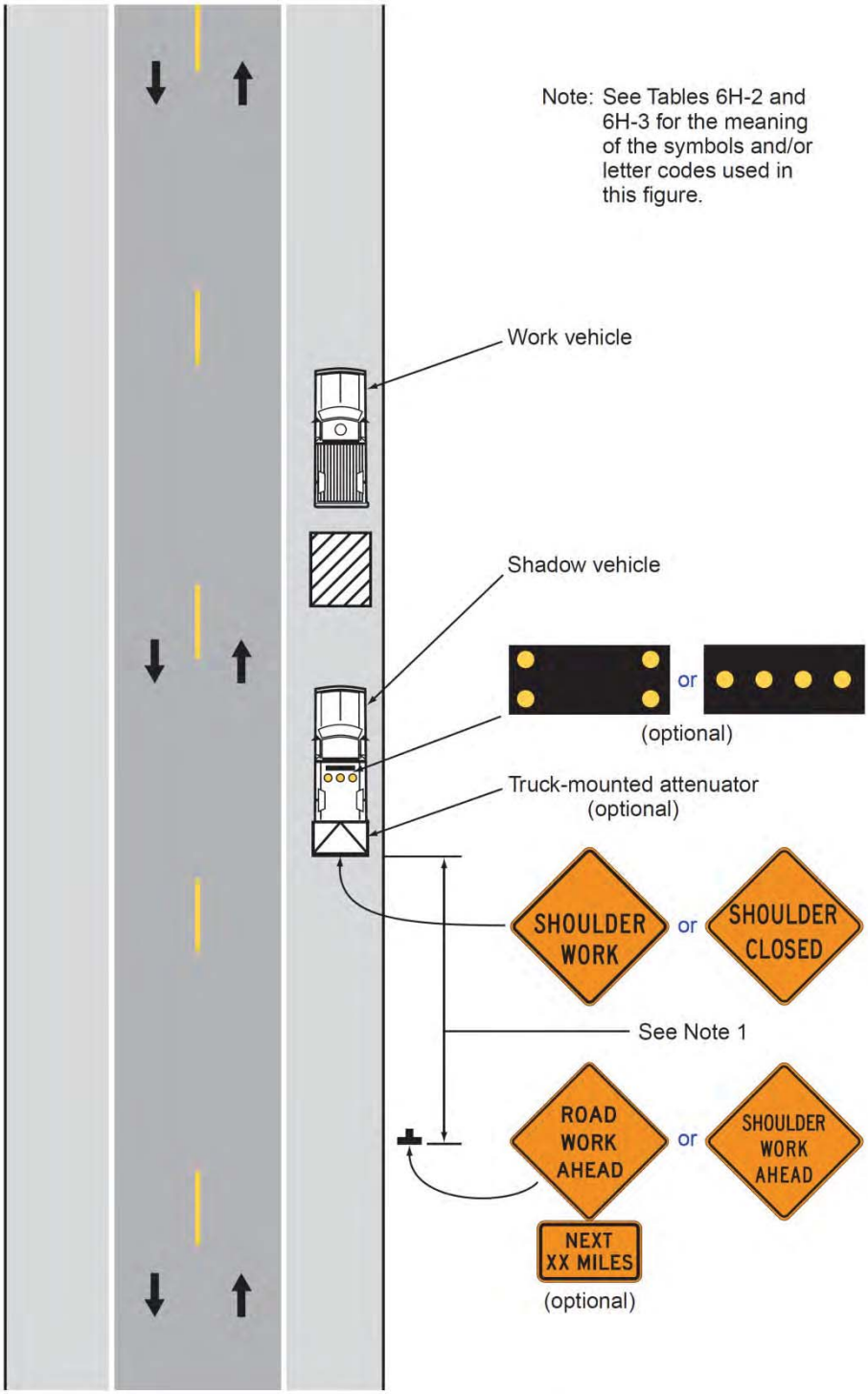
Typical Application 6

Figure 6H-101 (CA). Shoulder Closure on Urban (Low Speed) locations to accommodate bicyclists (TA-101 (CA))



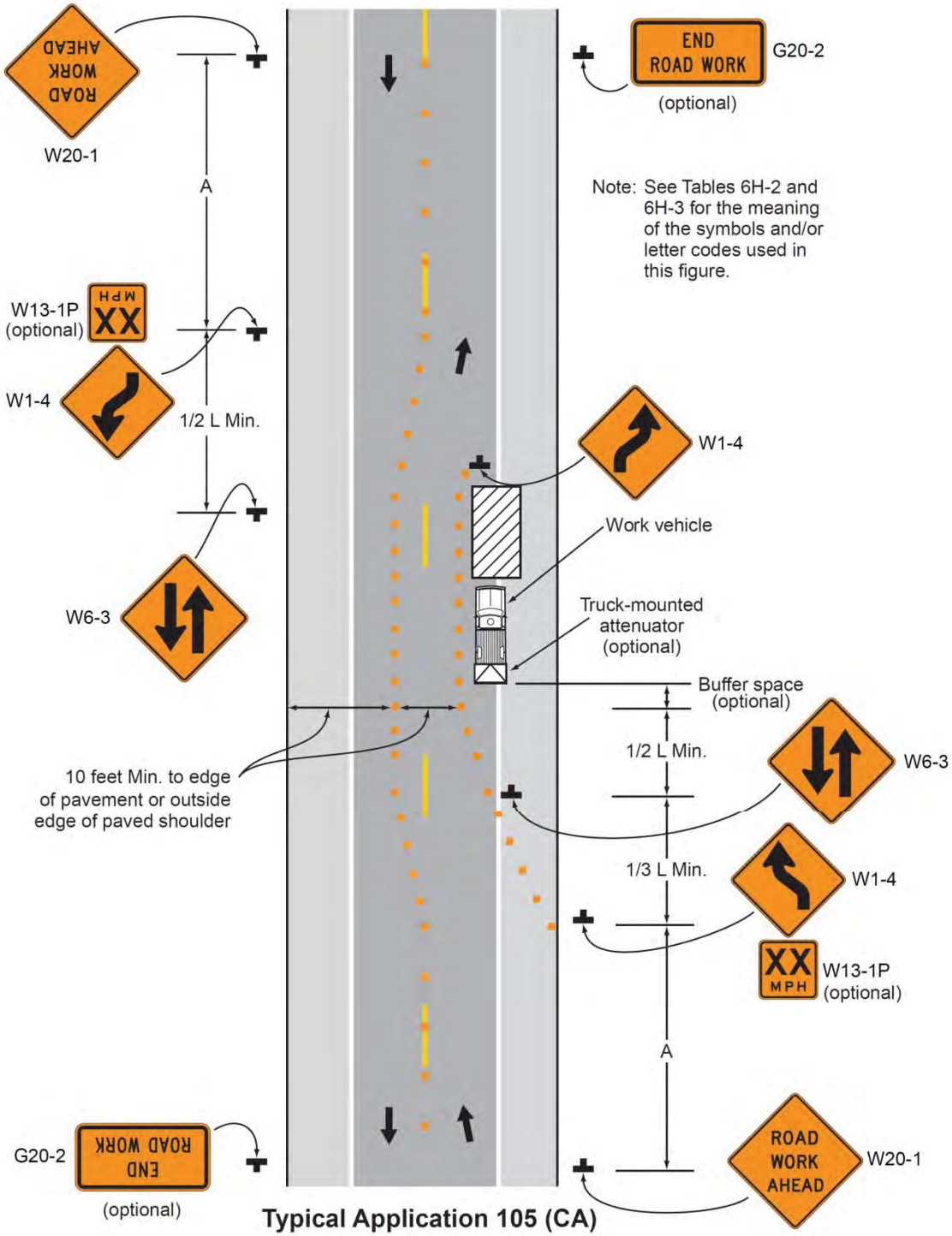
Typical Application 101 (CA)

Figure 6H-4. Short-Duration or Mobile Operation on a Shoulder (TA-4)



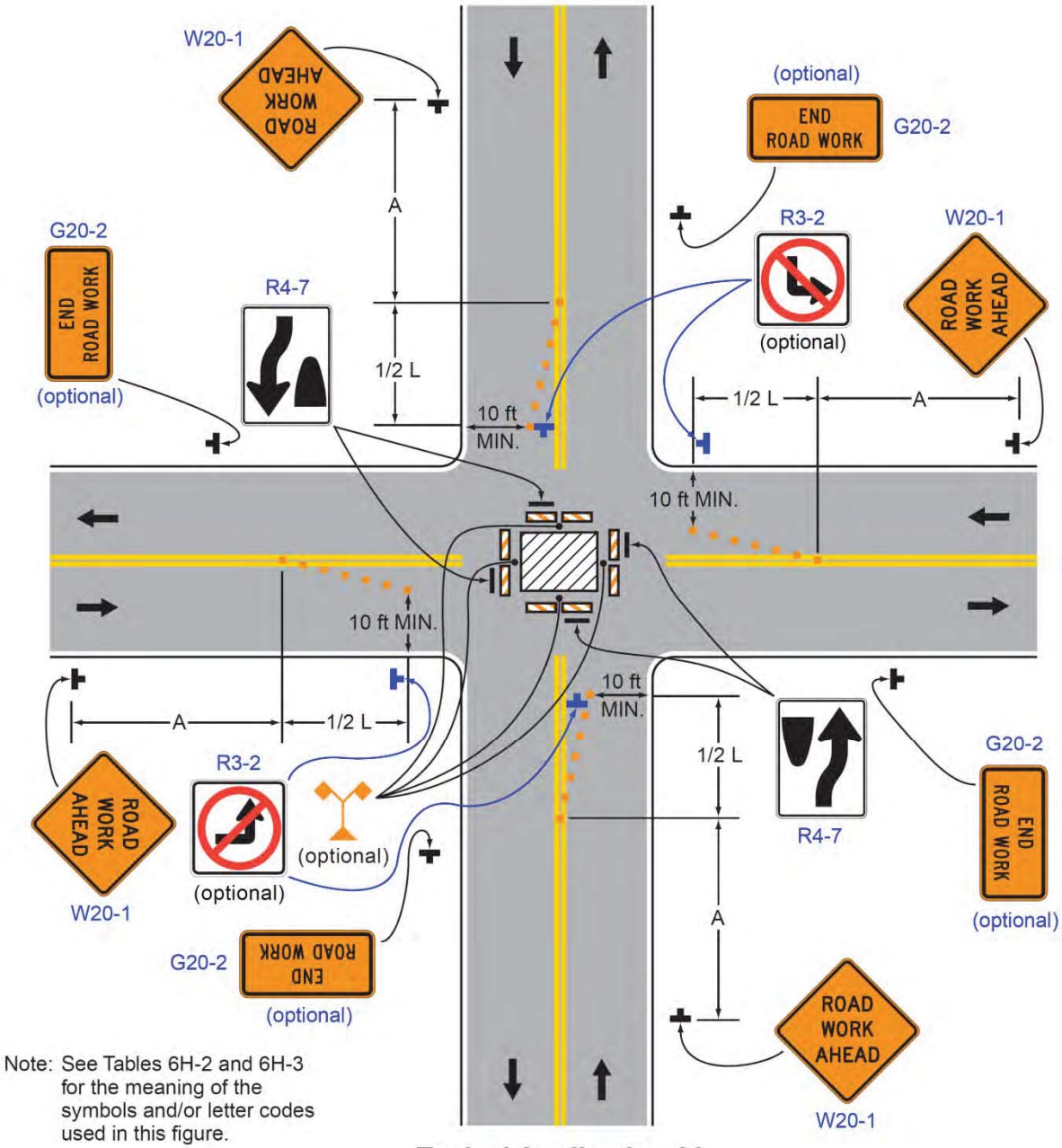
Typical Application 4

Figure 6H-105 (CA). Lane Shift on Road With Low Traffic Volumes (TA-105 (CA))



Typical Application 105 (CA)

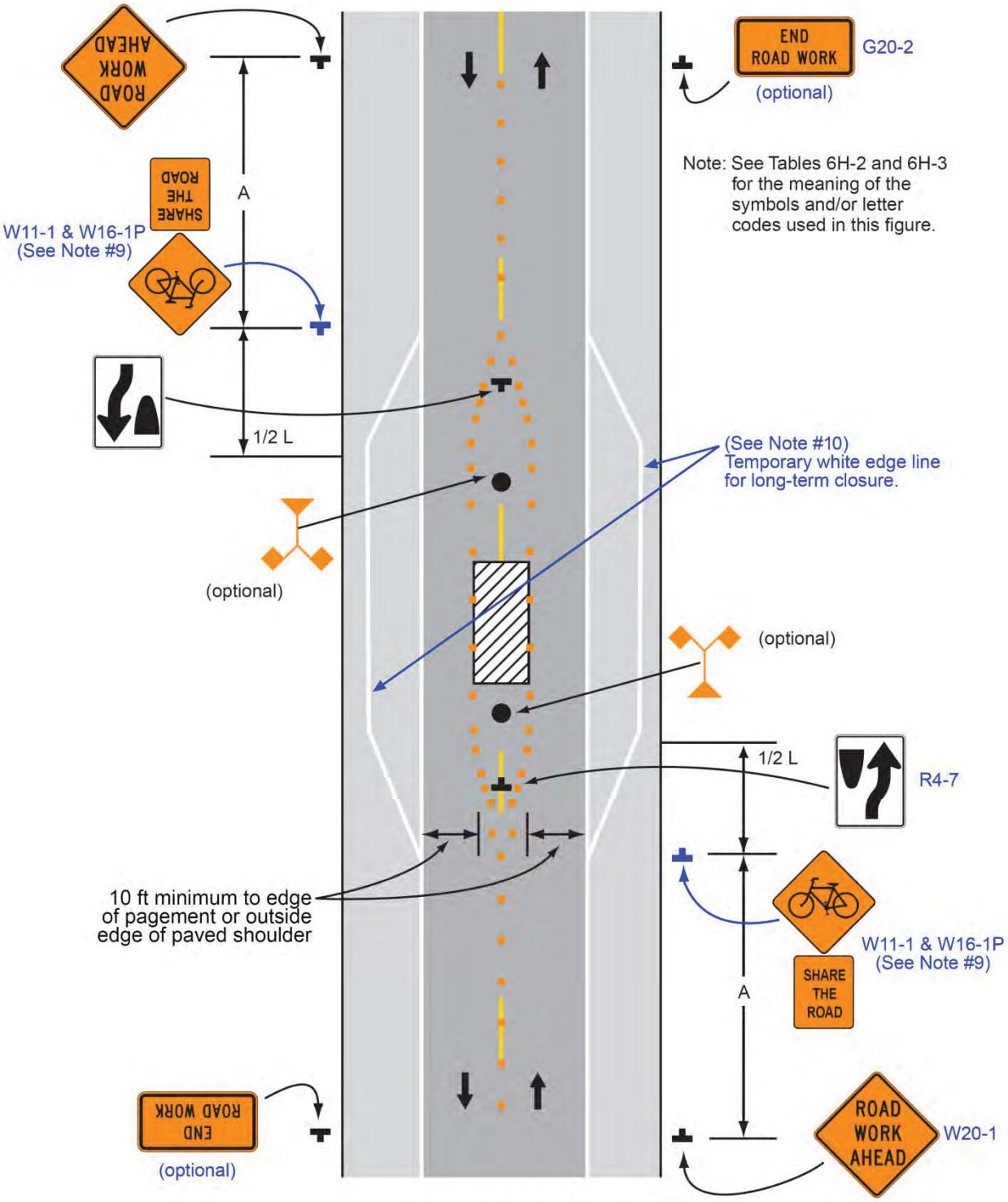
Figure 6H-26. Closure in the Center of an Intersection (TA-26)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

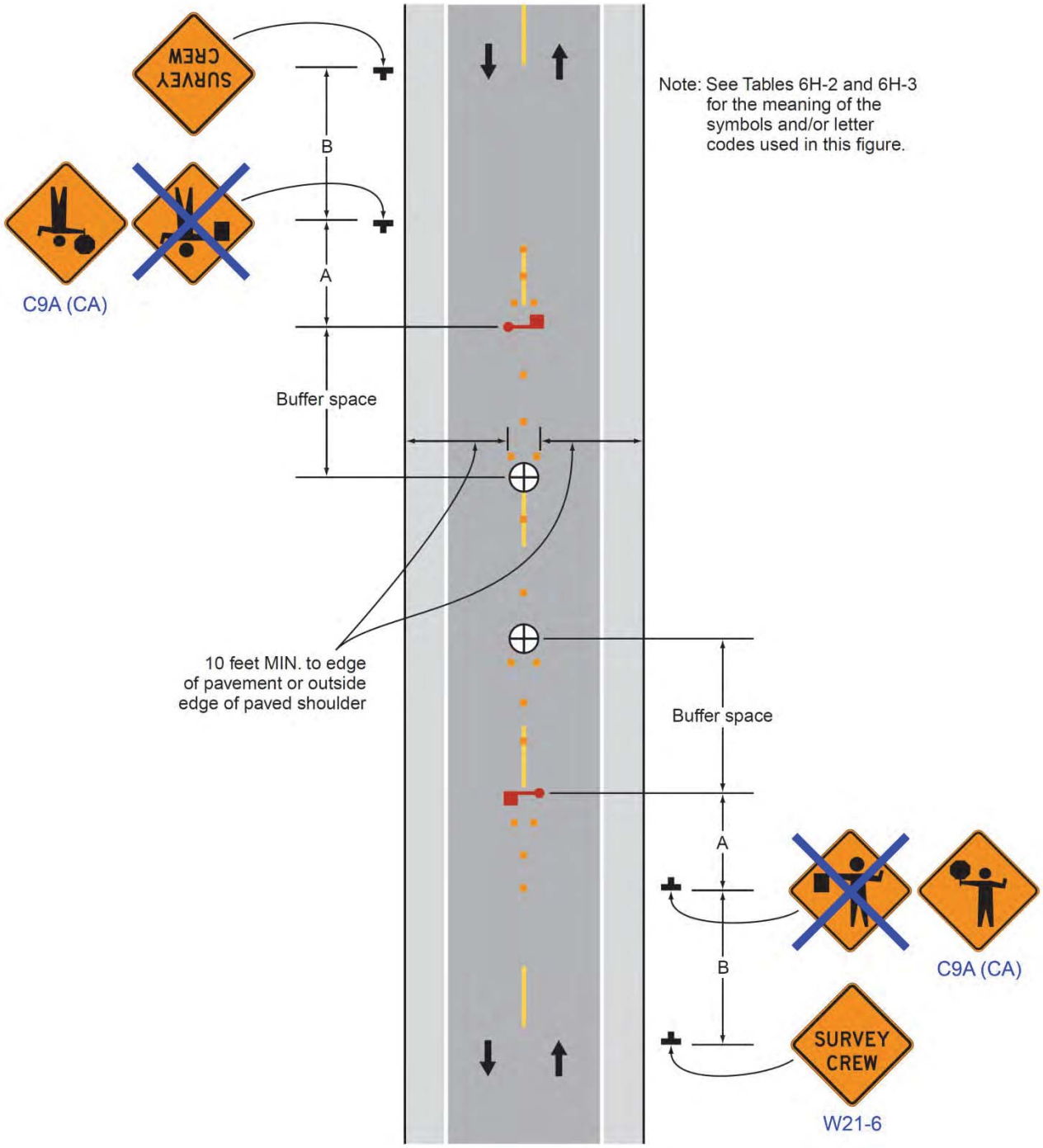
Typical Application 26

Figure 6H-15. Work in Center of Road with Low Traffic Volumes (TA-15)



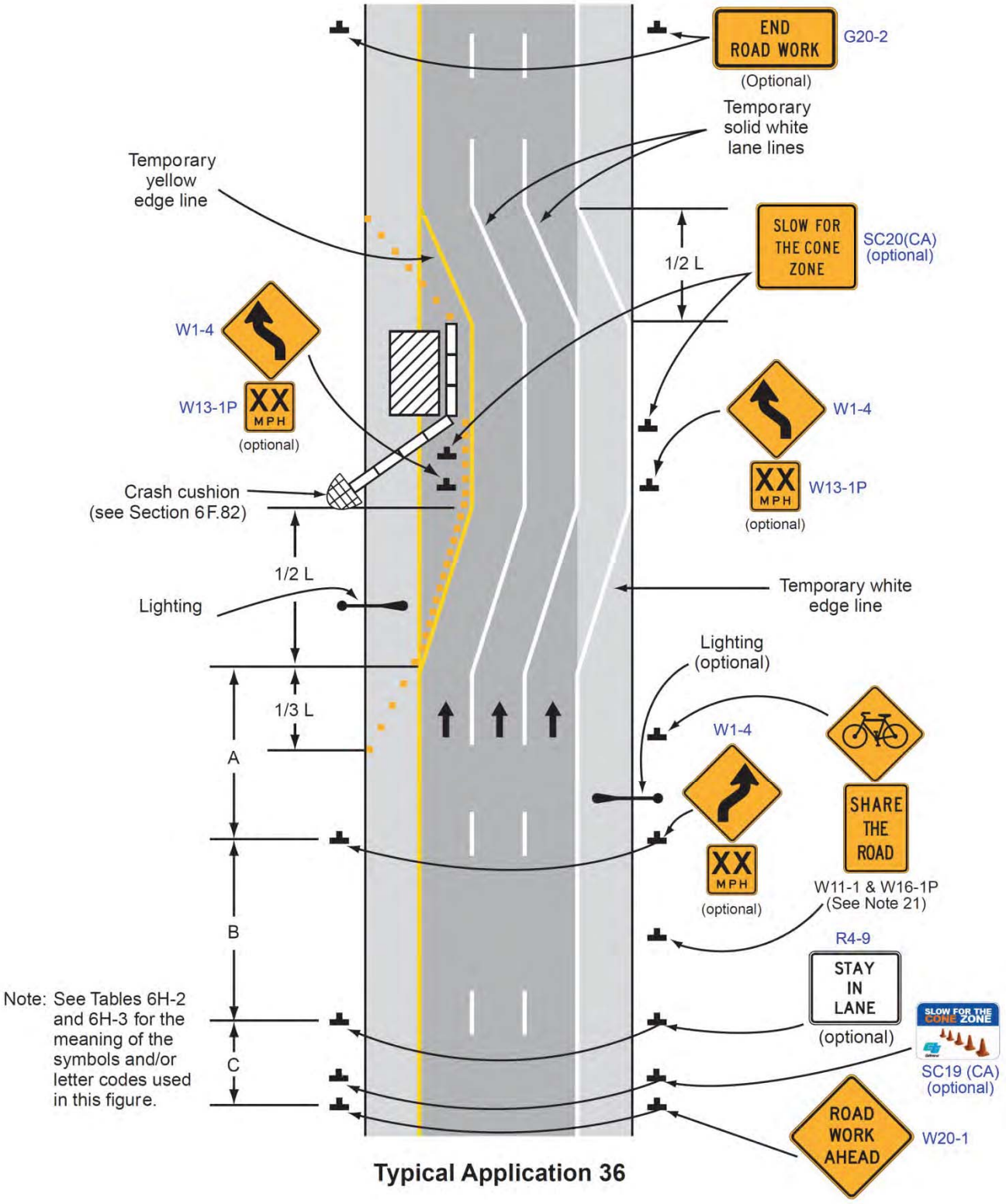
Typical Application 15

Figure 6H-16. Surveying Along the Center Line of a Road with Low Traffic Volumes (TA-16)



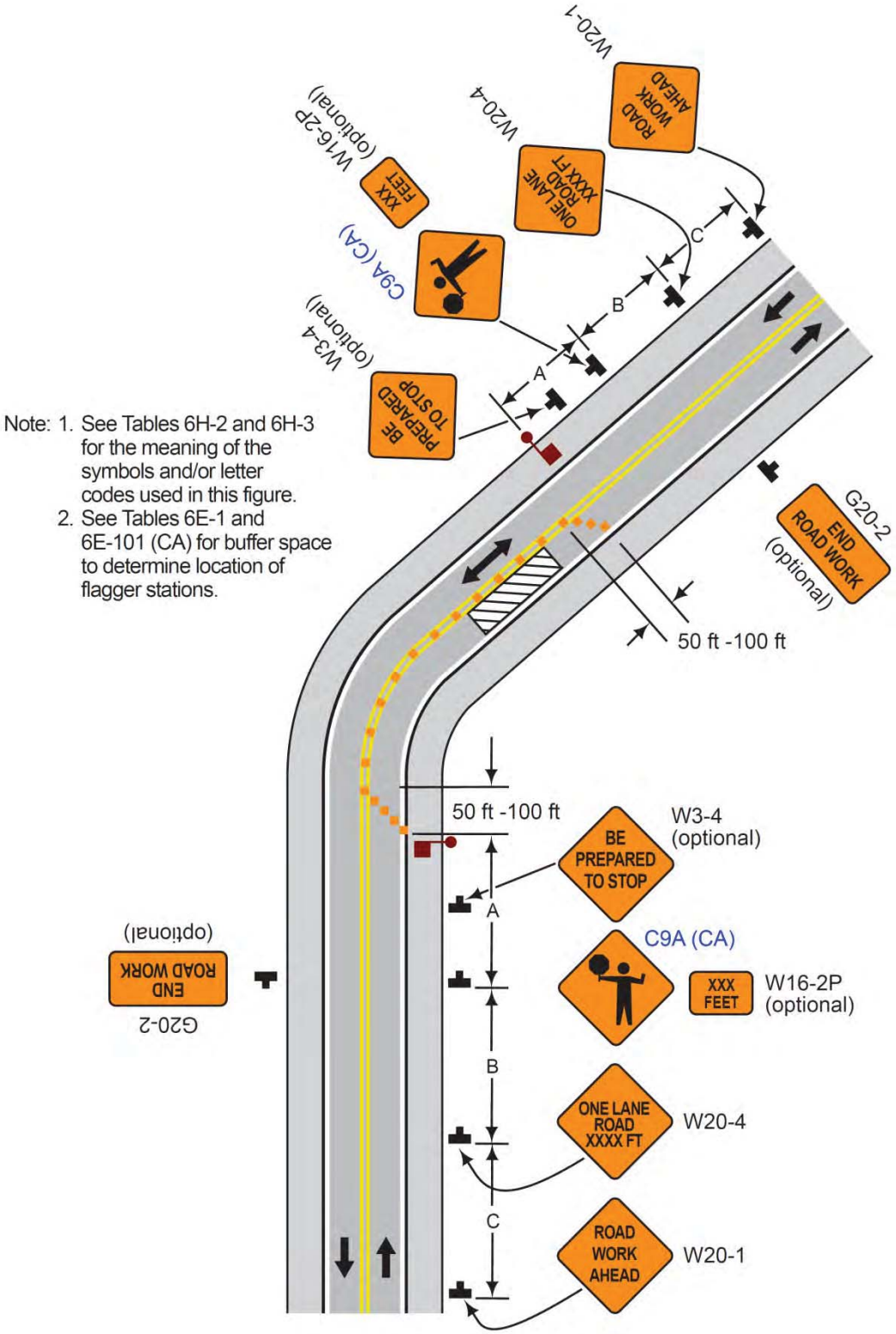
Typical Application 16

Figure 6H-36 (CA). Lane Shift on Freeway (TA-36)



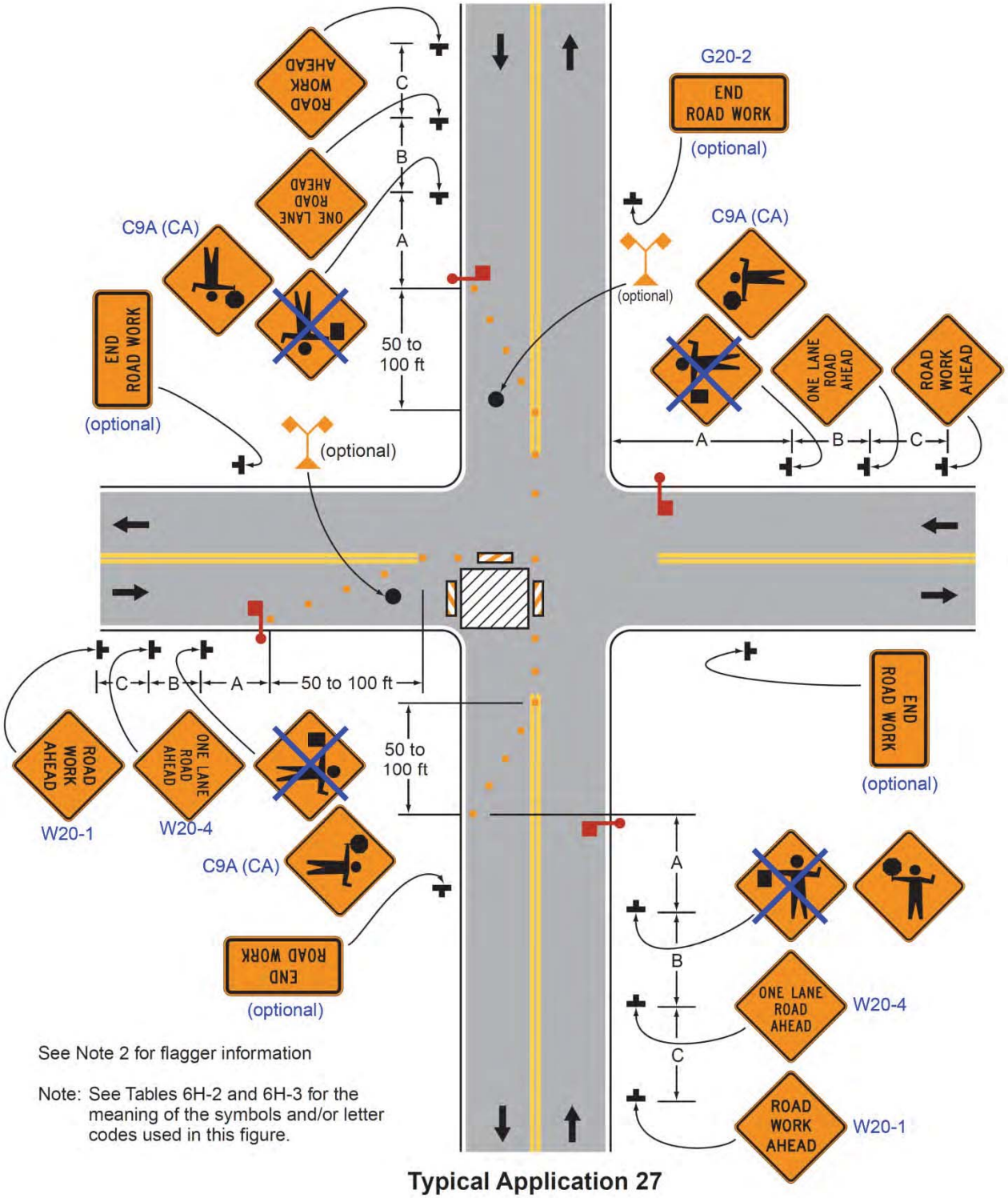
Typical Application 36

Figure 6H-10 (CA). Lane Closure on Two-Lane Road Using Flaggers (TA-10)



Typical Application 10

Figure 6H-27. Closure at the Side of an Intersection (TA-27)



Typical Application 27

Figure 6E-3. Use of Hand-Signaling Devices by Flaggers

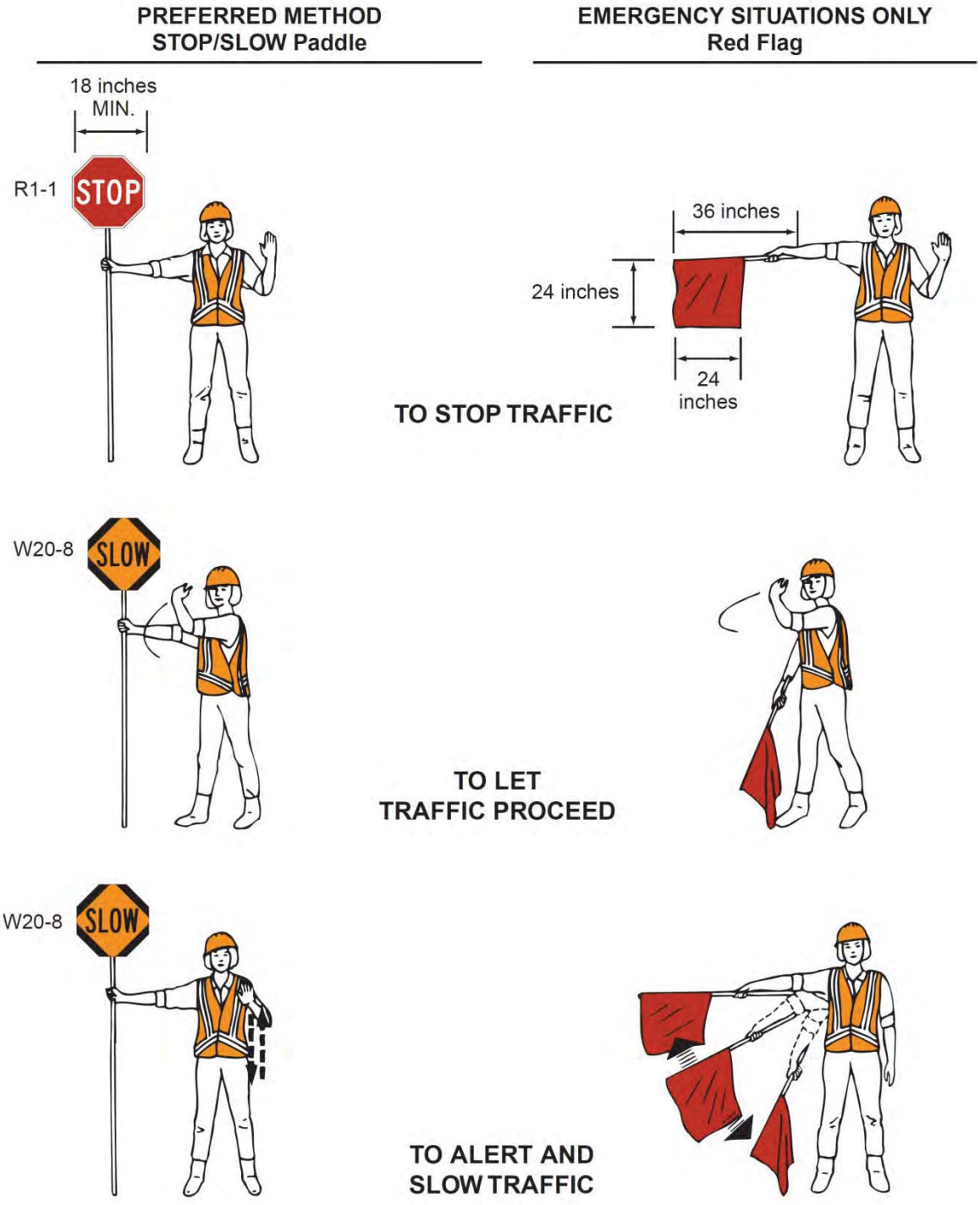


Table 6E-1. Stopping Sight Distance as a Function of Speed on Level Roads. (Used as suggested longitudinal buffer space length or location for flagger station)

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

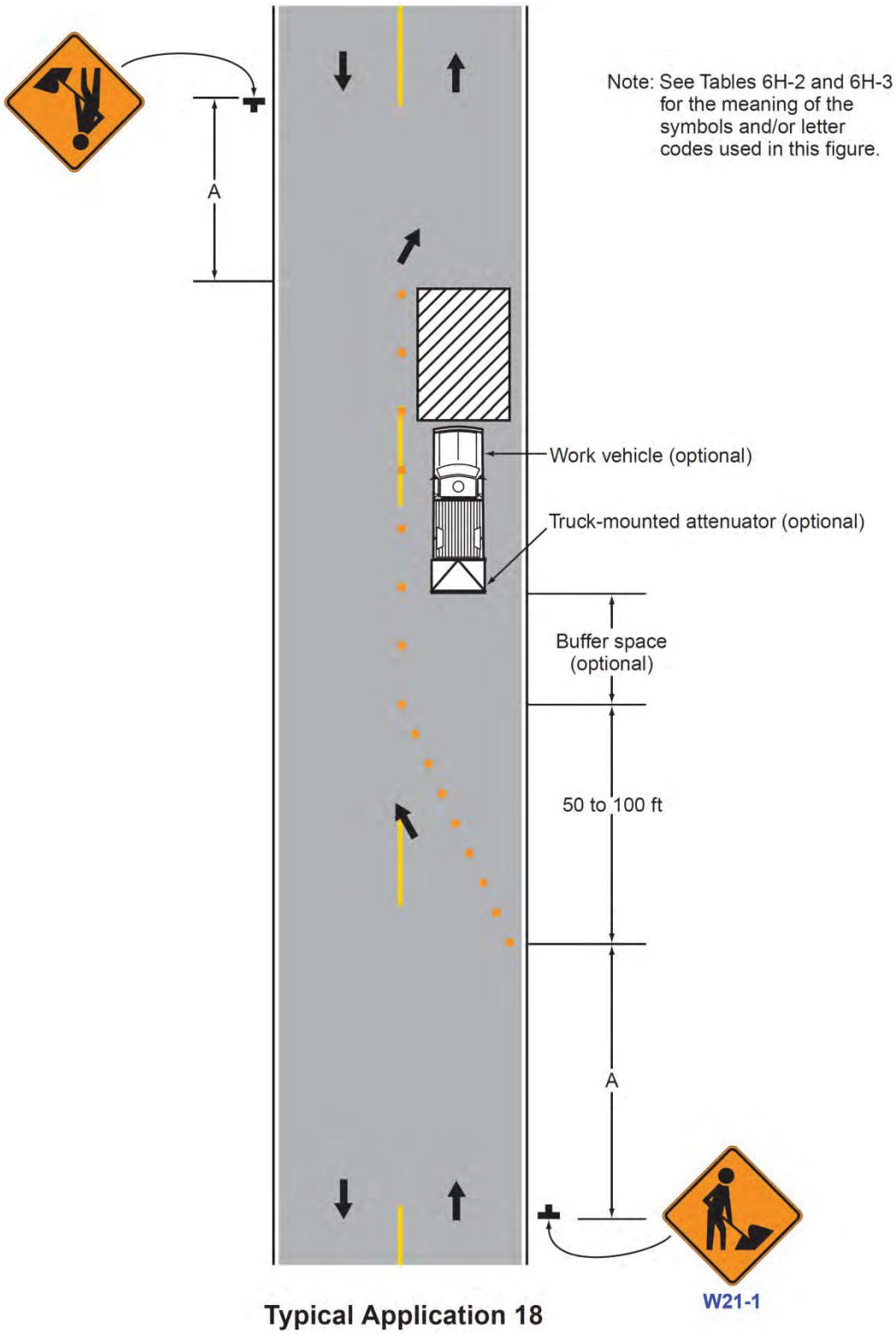
* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

Table 6E-101(CA). Stopping Sight Distance as a Function of Speed on Downgrades. (Used as suggested longitudinal buffer space length or location for flagger station)

Speed (mph)	% Downgrade (Buffer Space)		
	-3% (feet)	-6% (feet)	-9% (feet)
20	116	120	126
25	158	165	173
30	205	215	227
35	257	271	287
40	315	333	354
45	378	400	427
50	446	474	507
55	520	553	593
60	598	638	686
65	682	728	785
70	771	825	891
75	866	927	1003

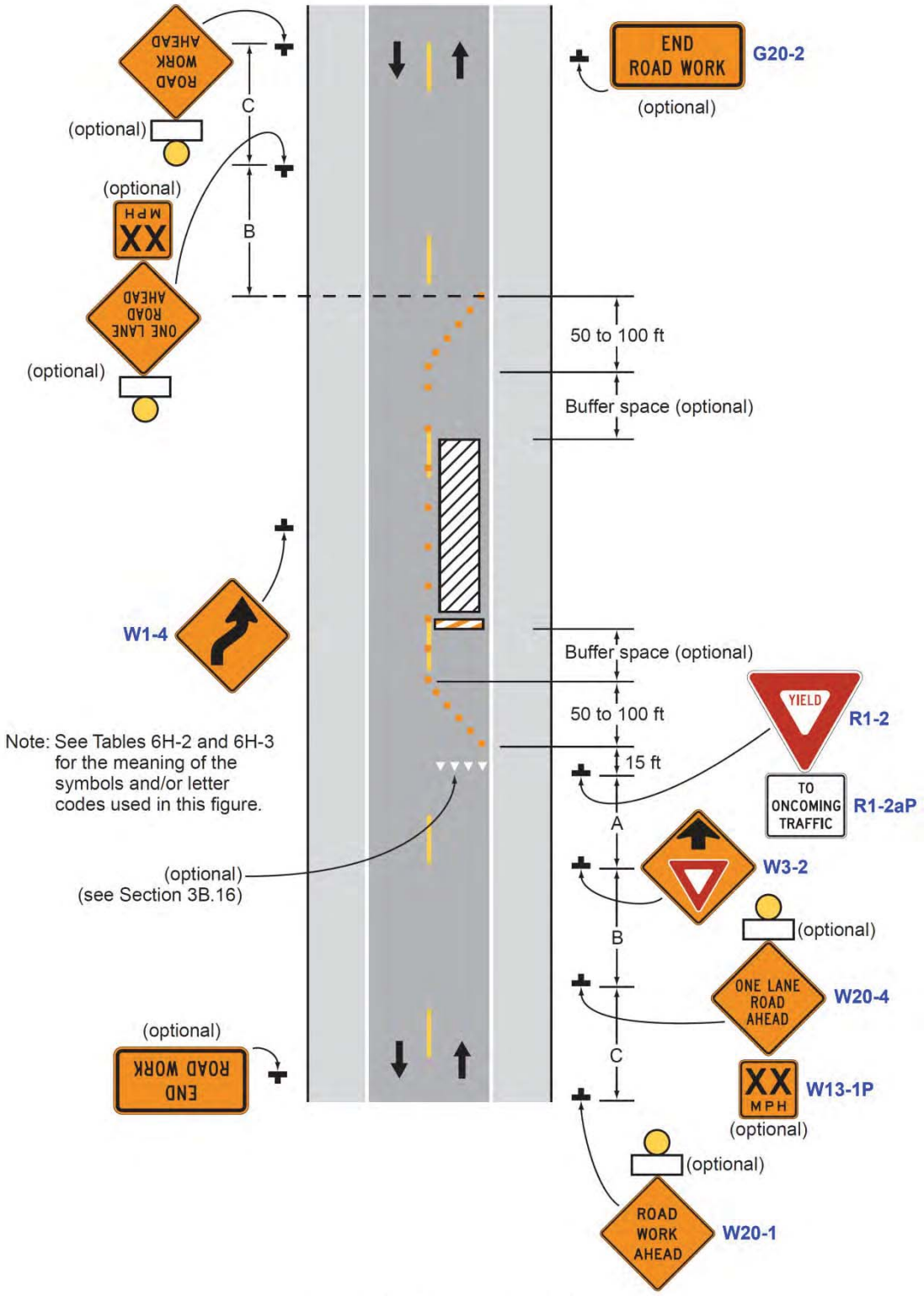
* Exhibit 3-2. A Policy on Geometric Design of Highways and Streets, AASHTO, 2001, p.115.

Figure 6H-18. Lane Closure on a Minor Street (TA-18)



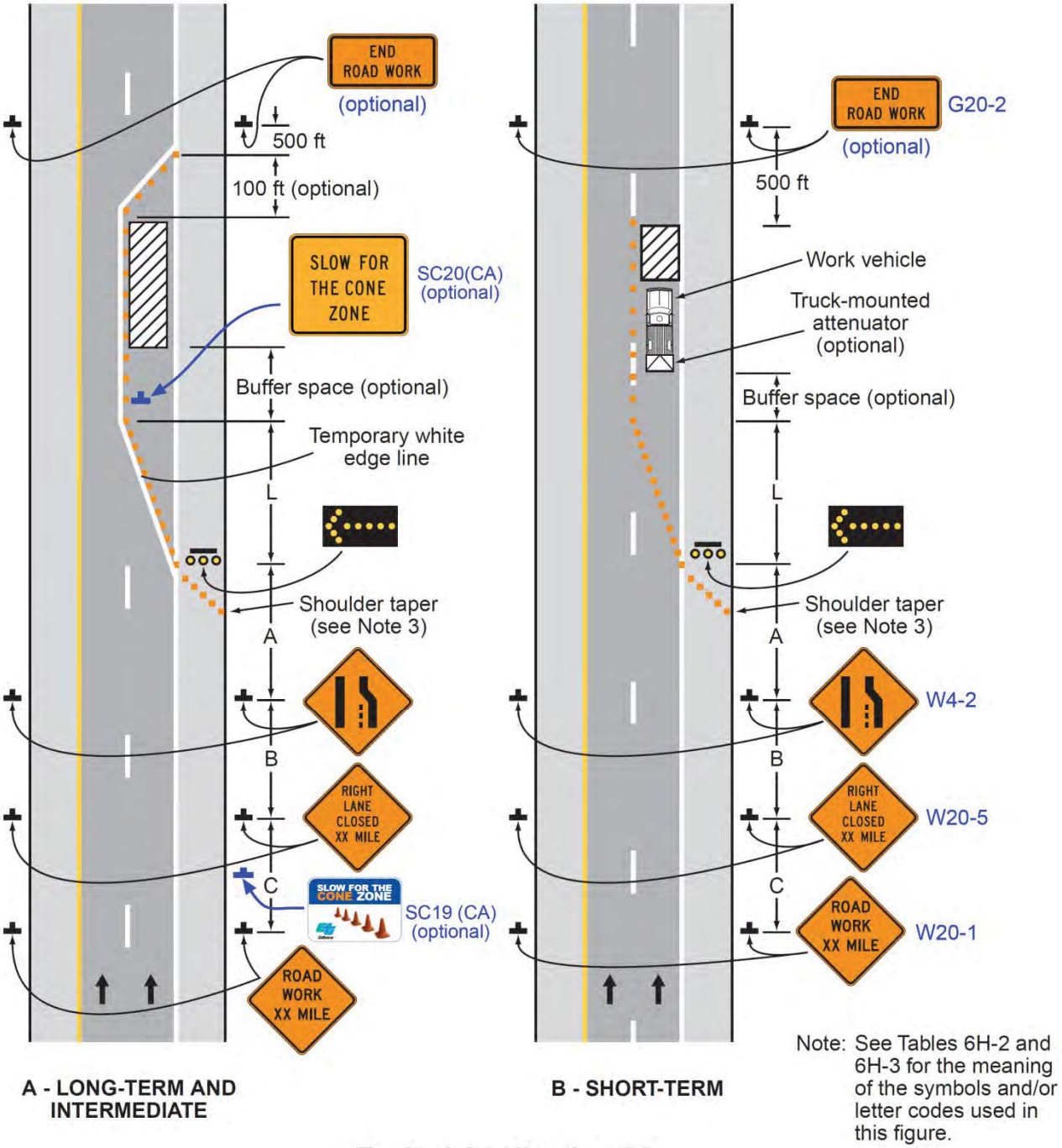
Typical Application 18

Figure 6H-11. Lane Closure on a Two-Lane Road with Low Traffic Volumes (TA-11)



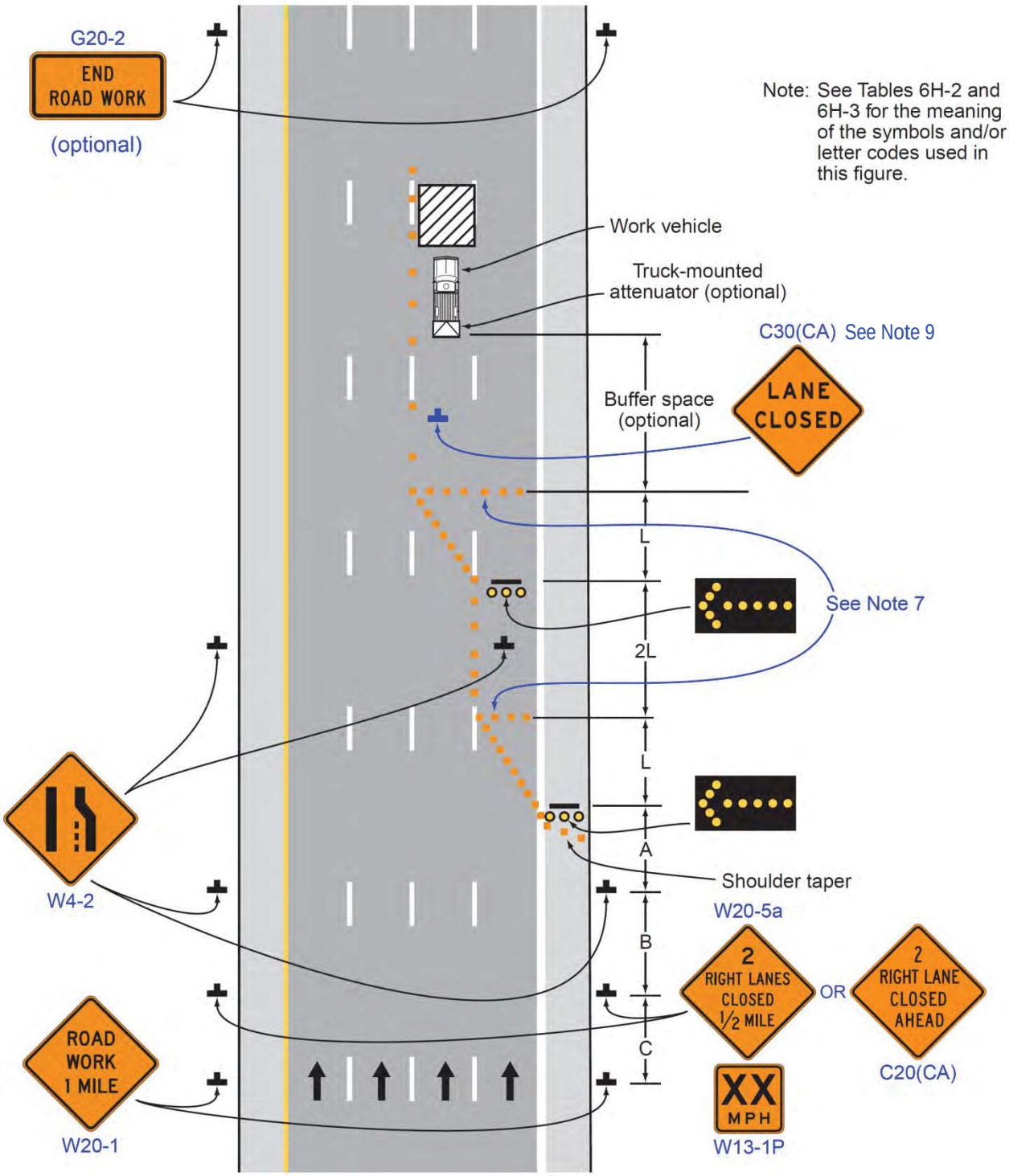
Typical Application 11

Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)



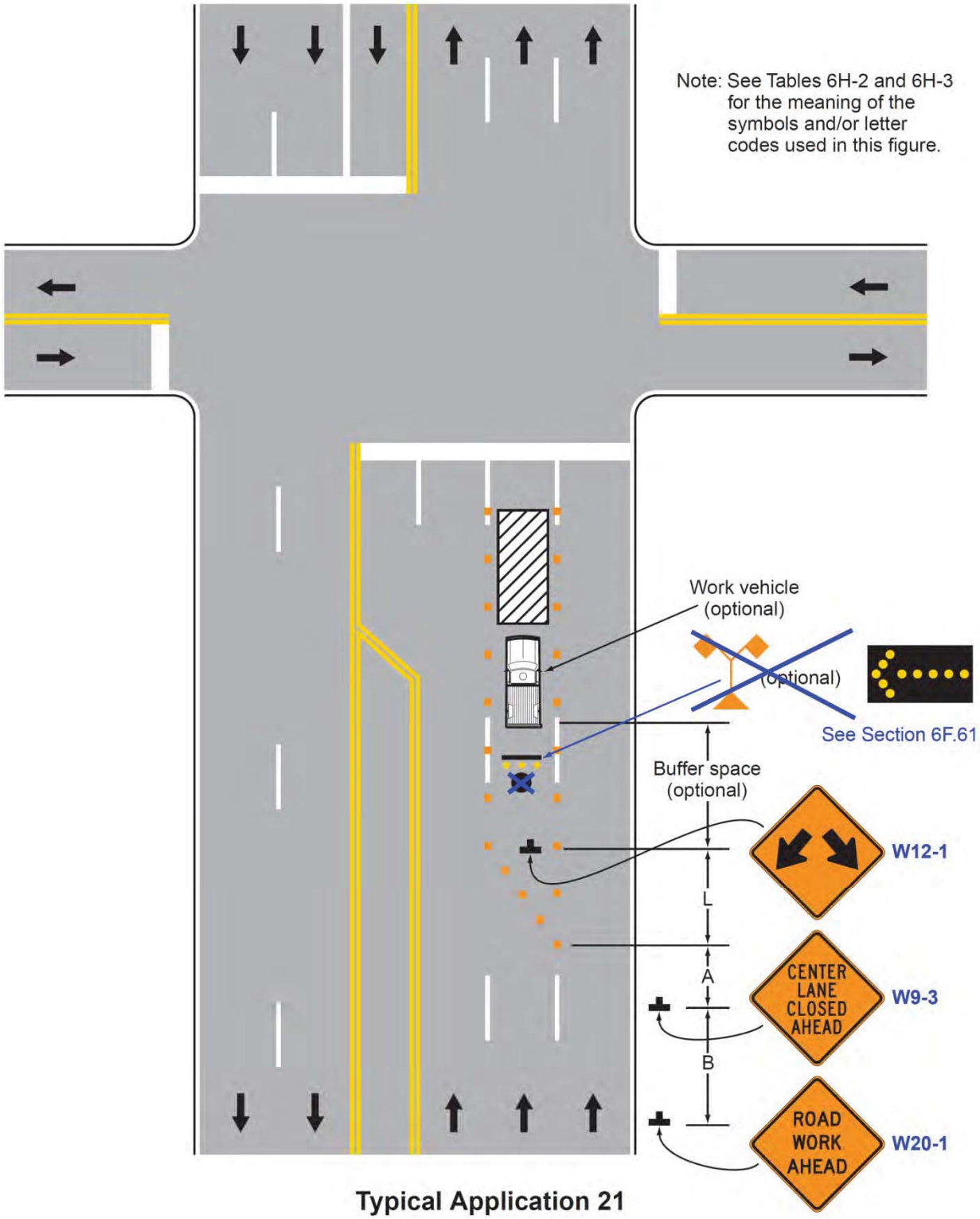
Typical Application 33

Figure 6H-37. Double Lane Closure on a Freeway (TA-37)



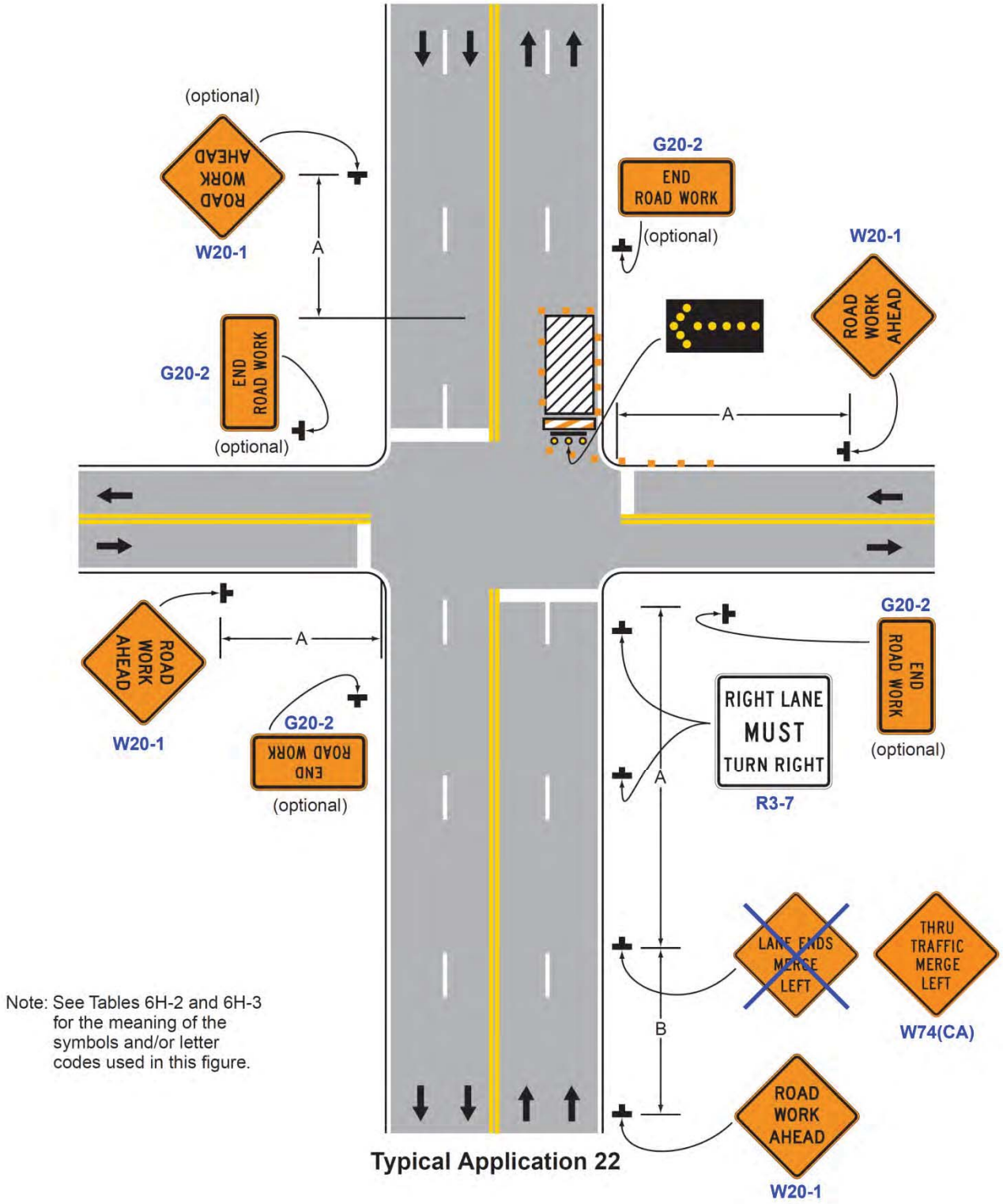
Typical Application 37

Figure 6H-21. Lane Closure on the Near Side of an Intersection (TA-21)



Typical Application 21

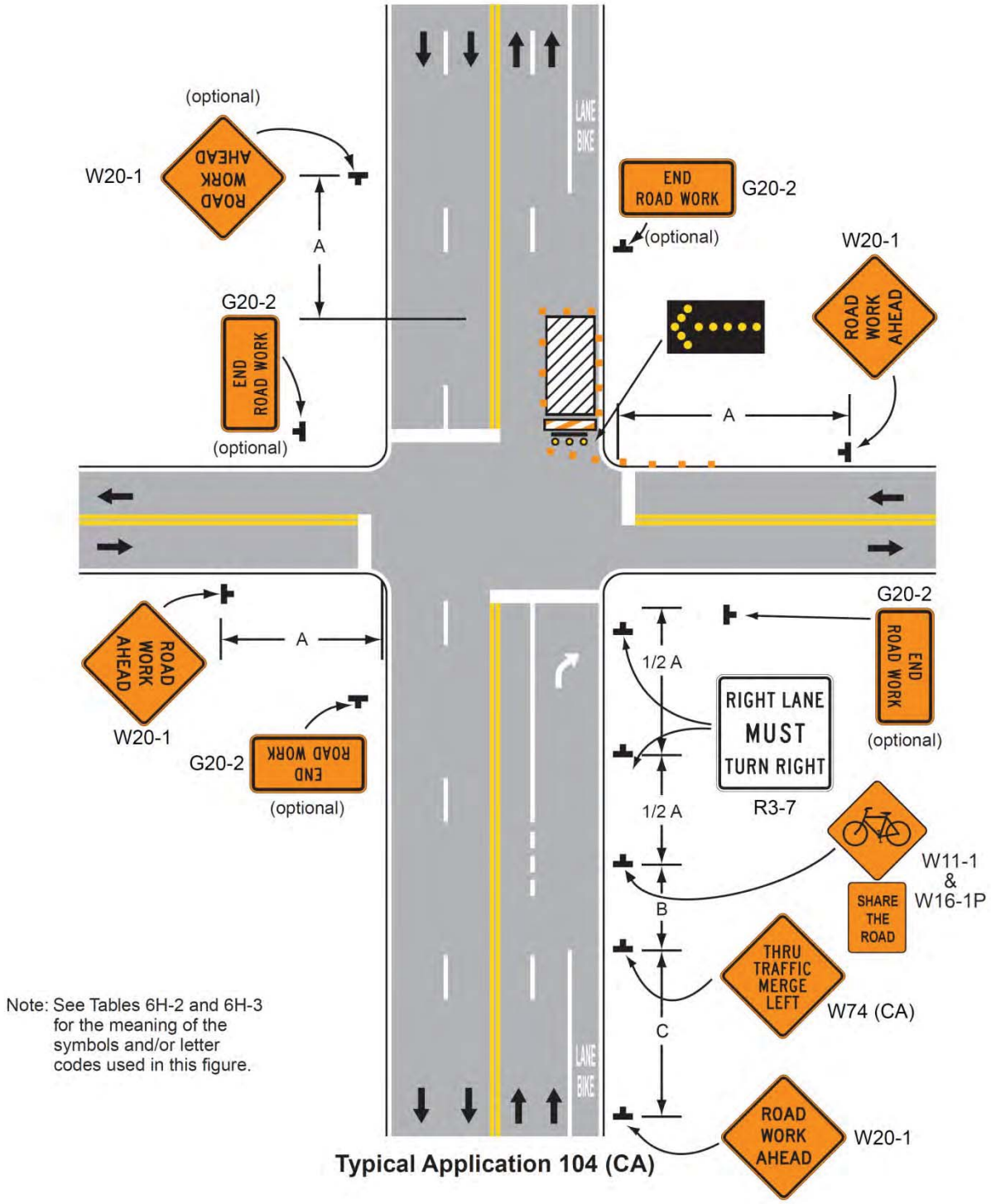
Figure 6H-22. Right-Hand Lane Closure on the Far Side of an Intersection (TA-22)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 22

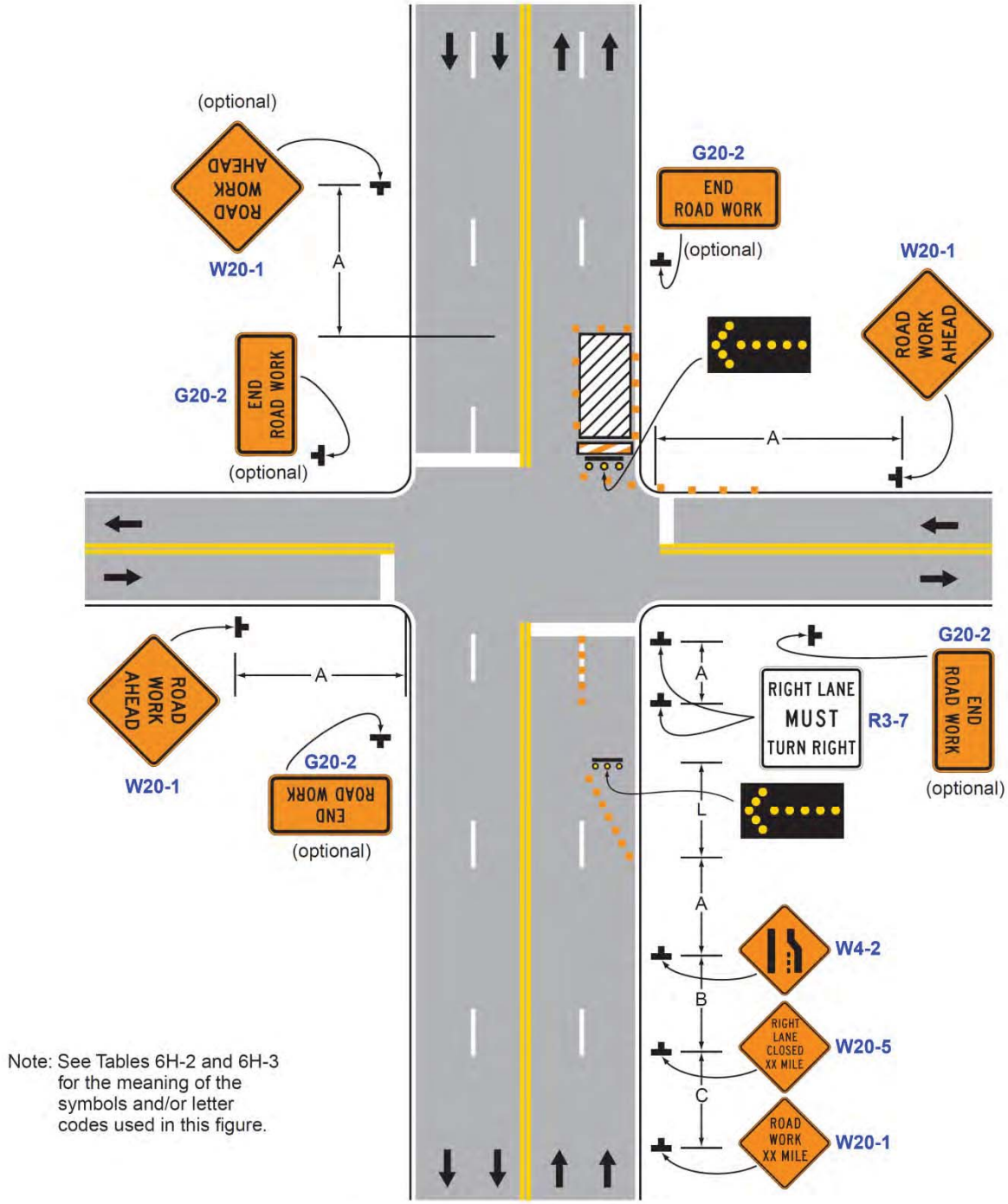
Figure 6H-104 (CA). Right Lane and Bike Lane Closure on Far Side of Intersection (TA-104 (CA))



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 104 (CA)

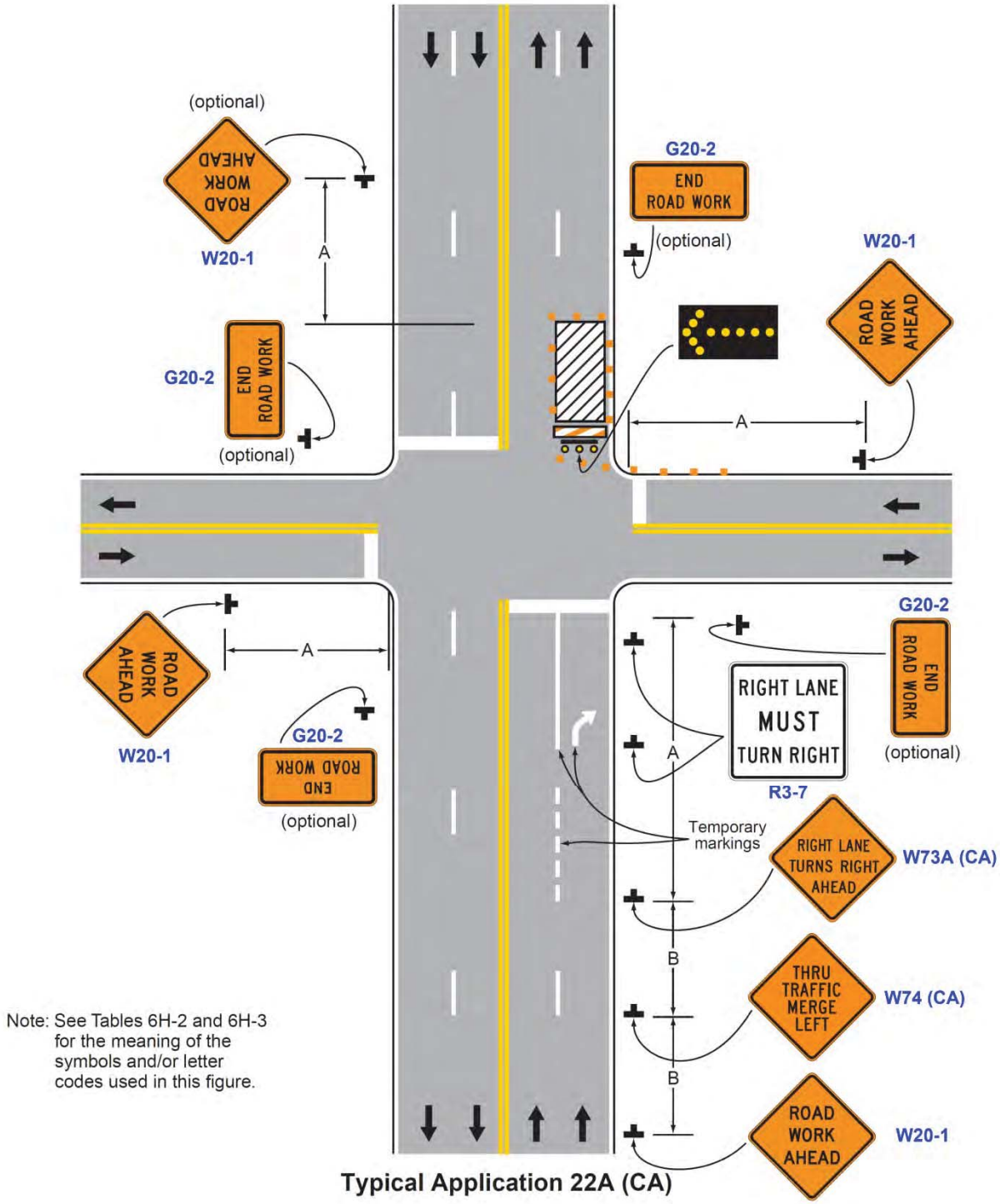
Figure 6H-22B(CA). Right-Hand Lane Closure on the Far Side of an Intersection (TA-22B (CA))



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

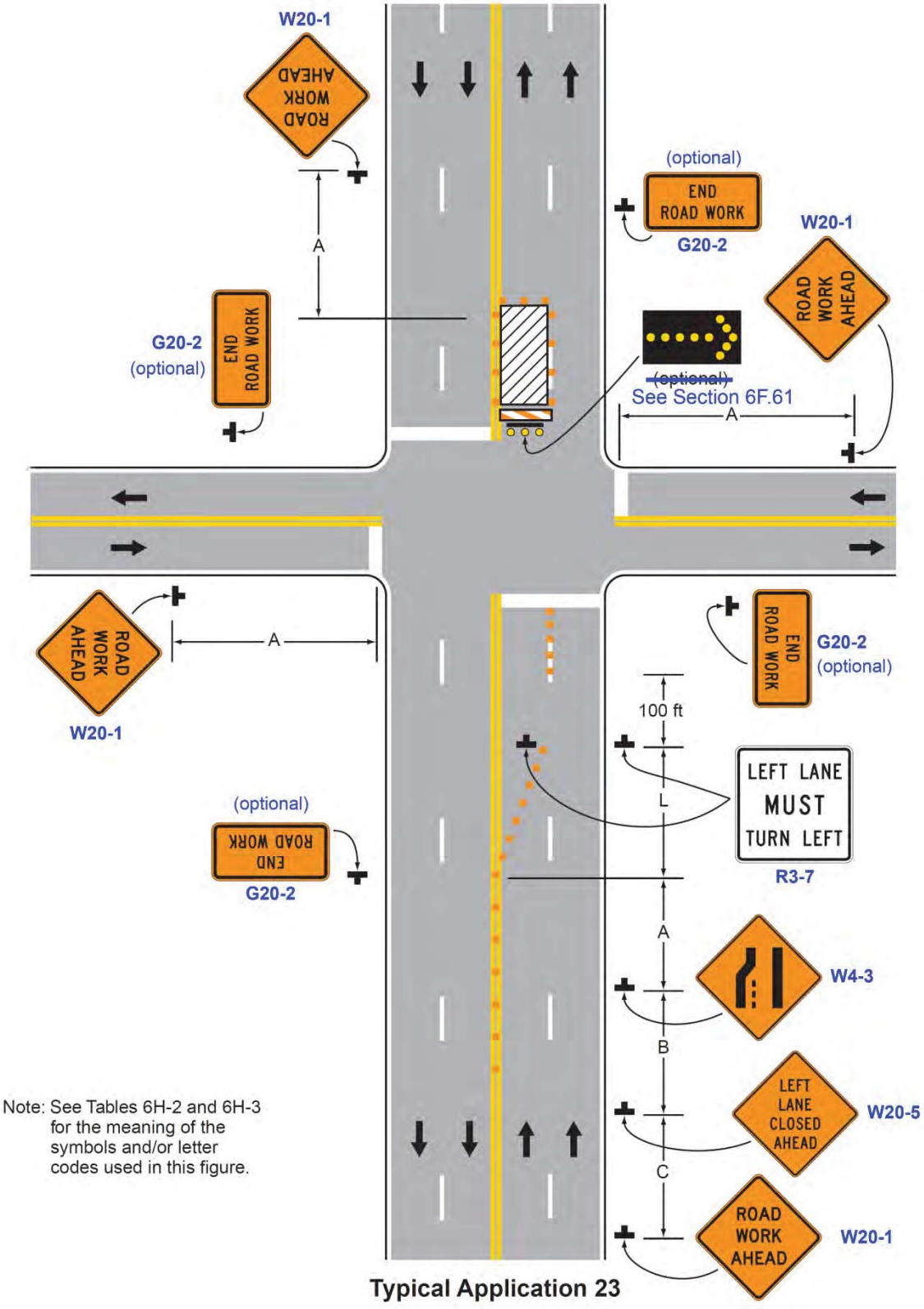
Typical Application 22B (CA)

Figure 6H-22A(CA). Right-Hand Lane Closure on the Far Side of an Intersection (TA-22A (CA))



Typical Application 22A (CA)

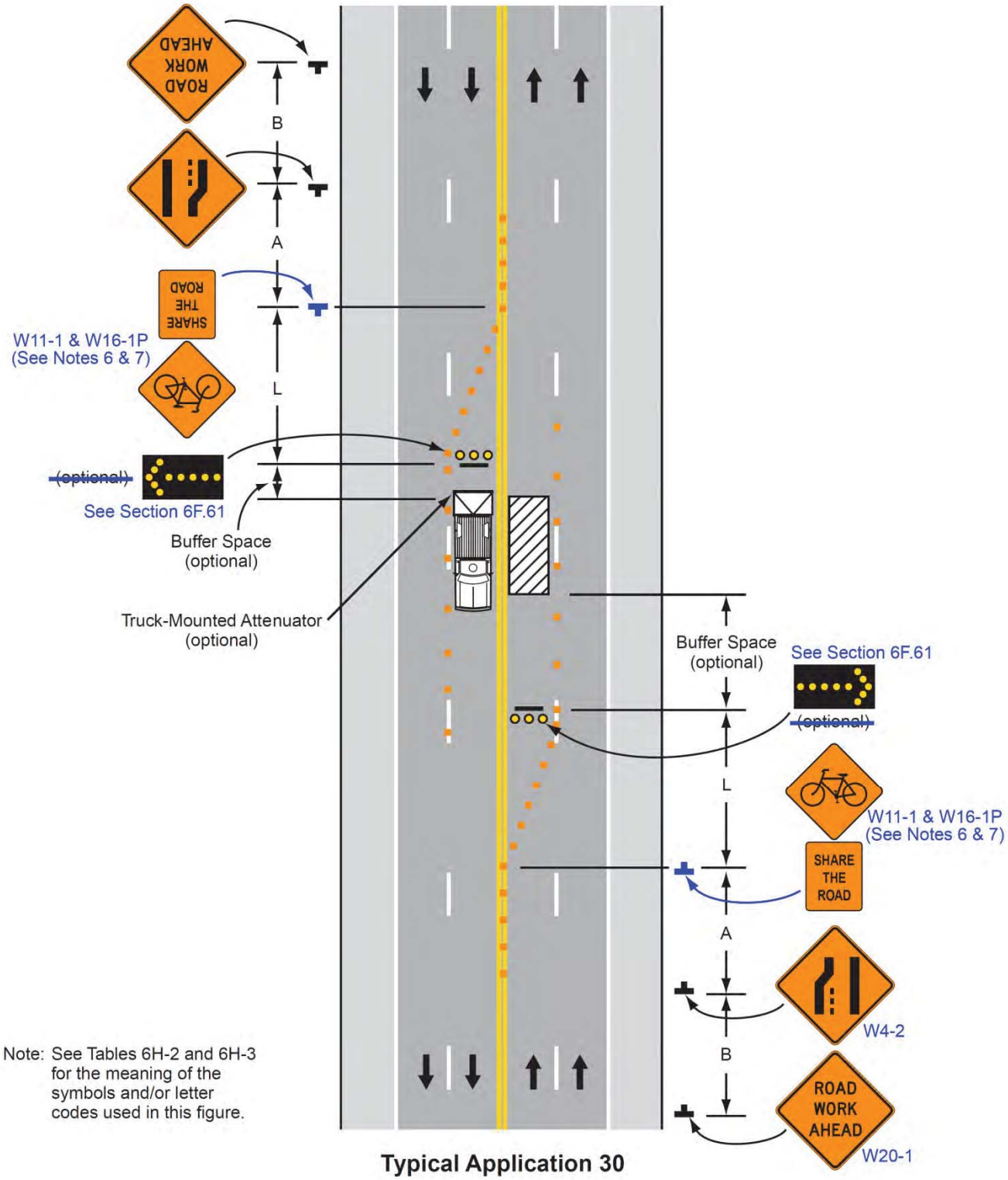
Figure 6H-23. Left-Hand Lane Closure on the Far Side of an Intersection (TA-23)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

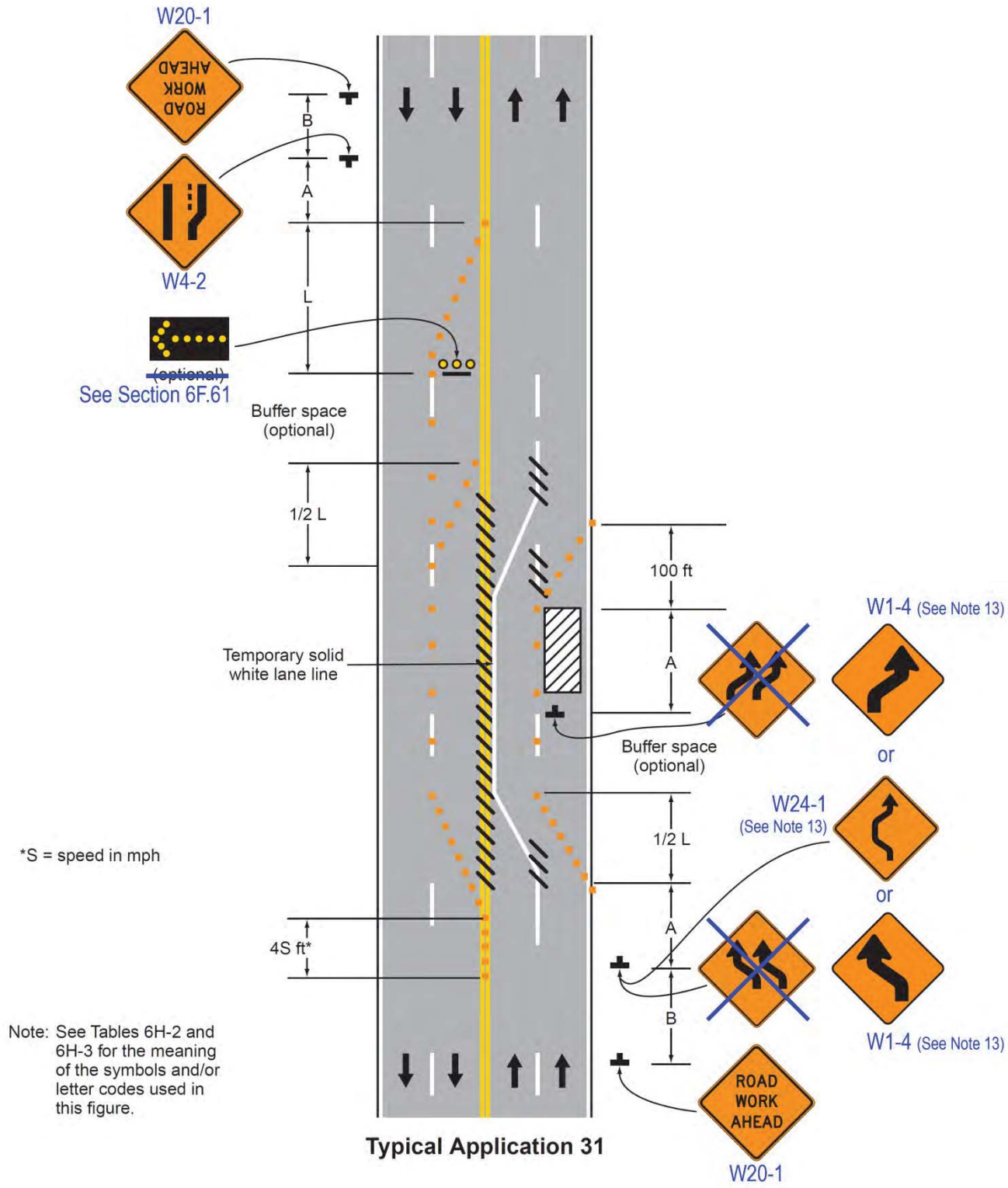
Typical Application 23

Figure 6H-30. Interior Lane Closure on Multi-lane Street (TA-30)



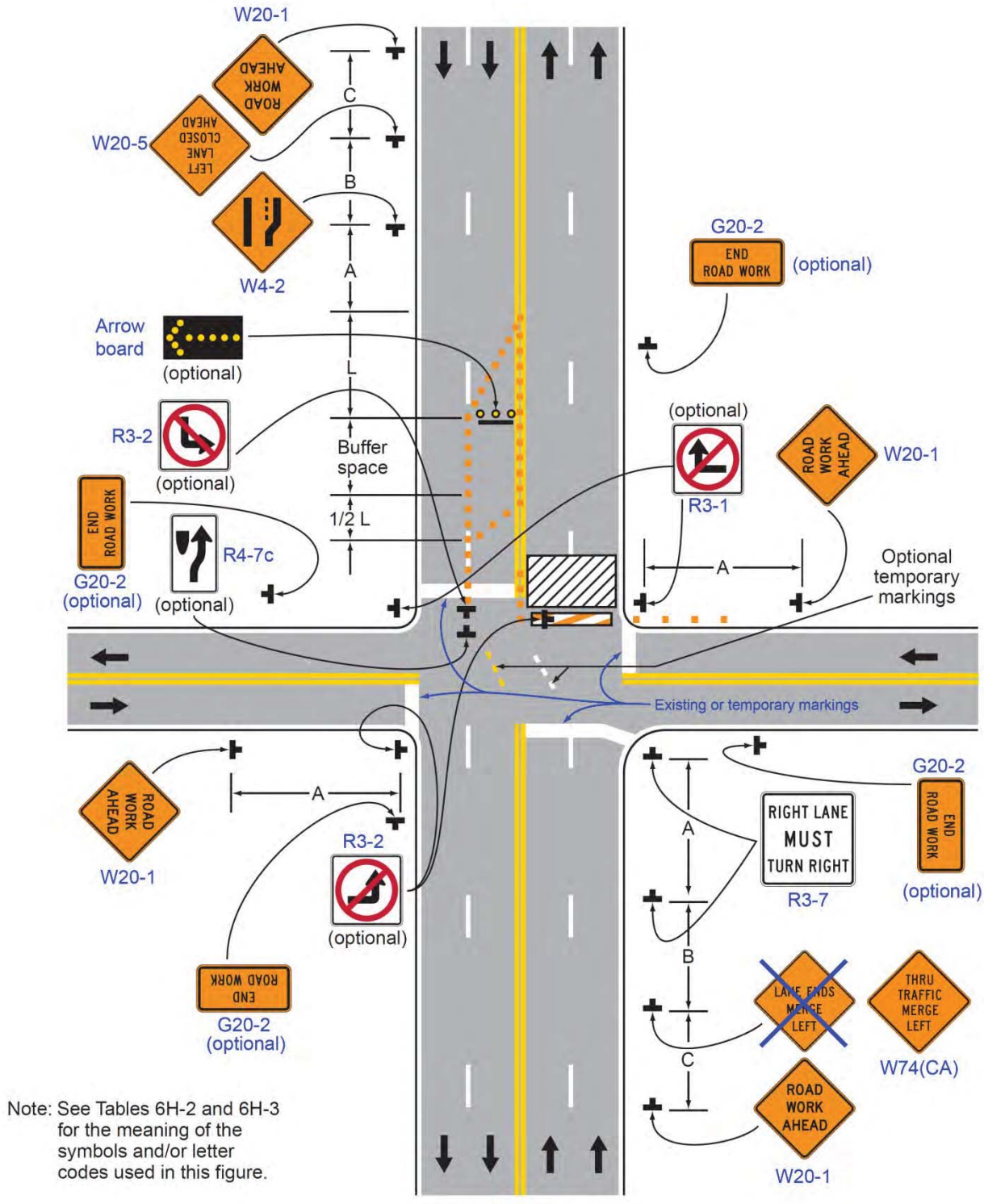
Typical Application 30

Figure 6H-31. Lane Closures on a Street with Uneven Directional Volumes (TA-31)



Typical Application 31

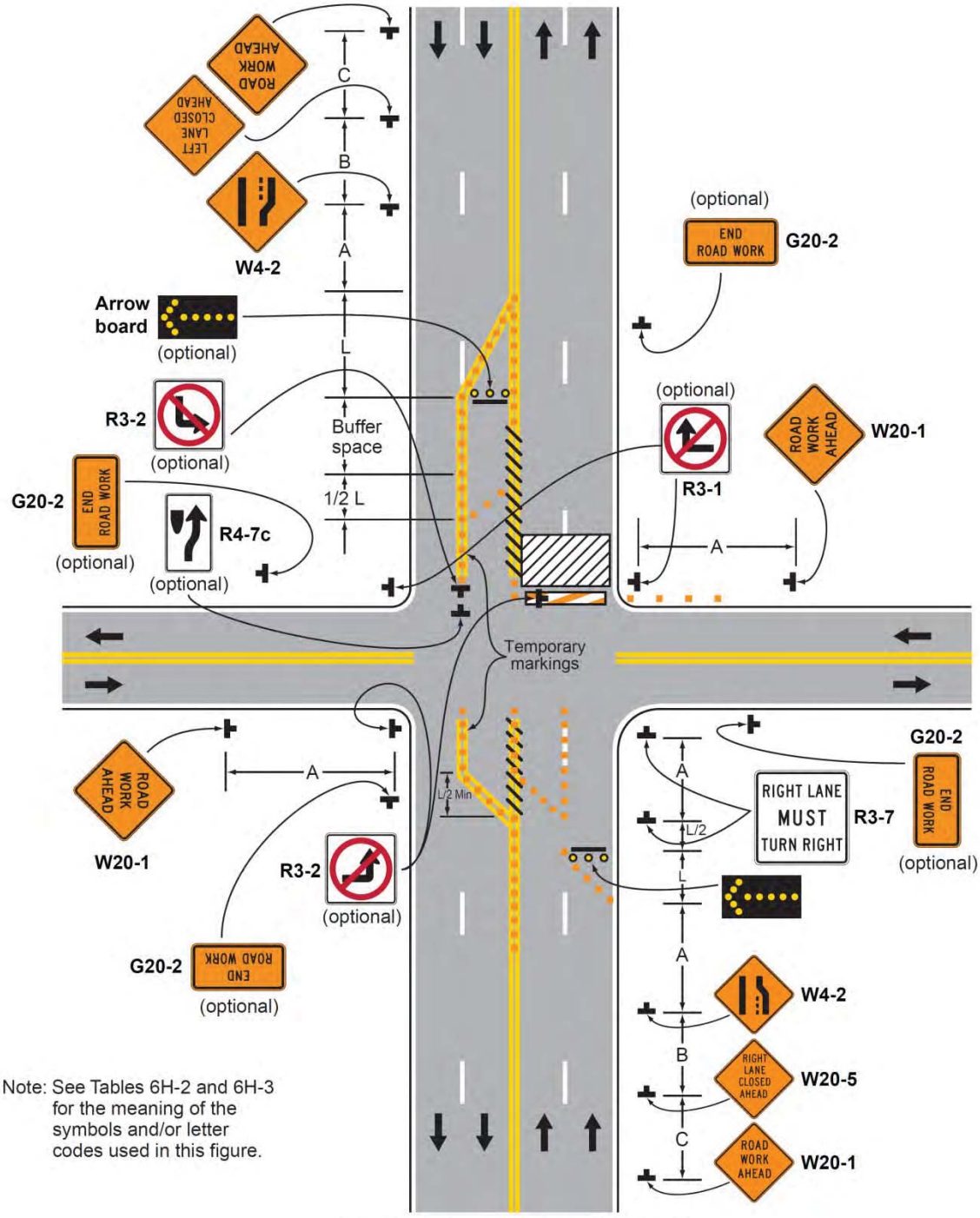
Figure 6H-24. Half Road Closure on the Far Side of an Intersection (TA-24)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

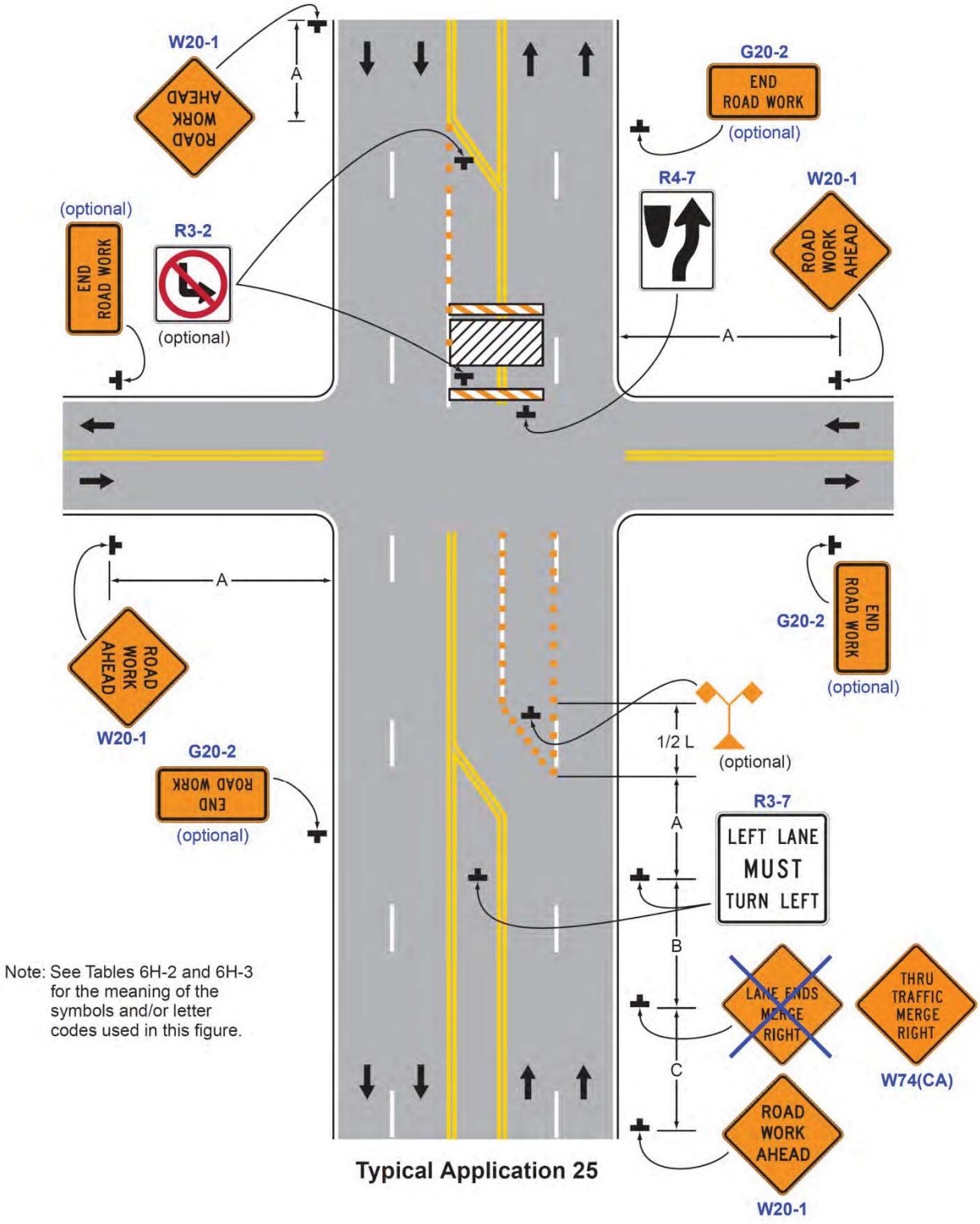
Typical Application 24

Figure 6H-24A (CA). Half Road Closure on the Far Side of an Intersection (TA-24A(CA))



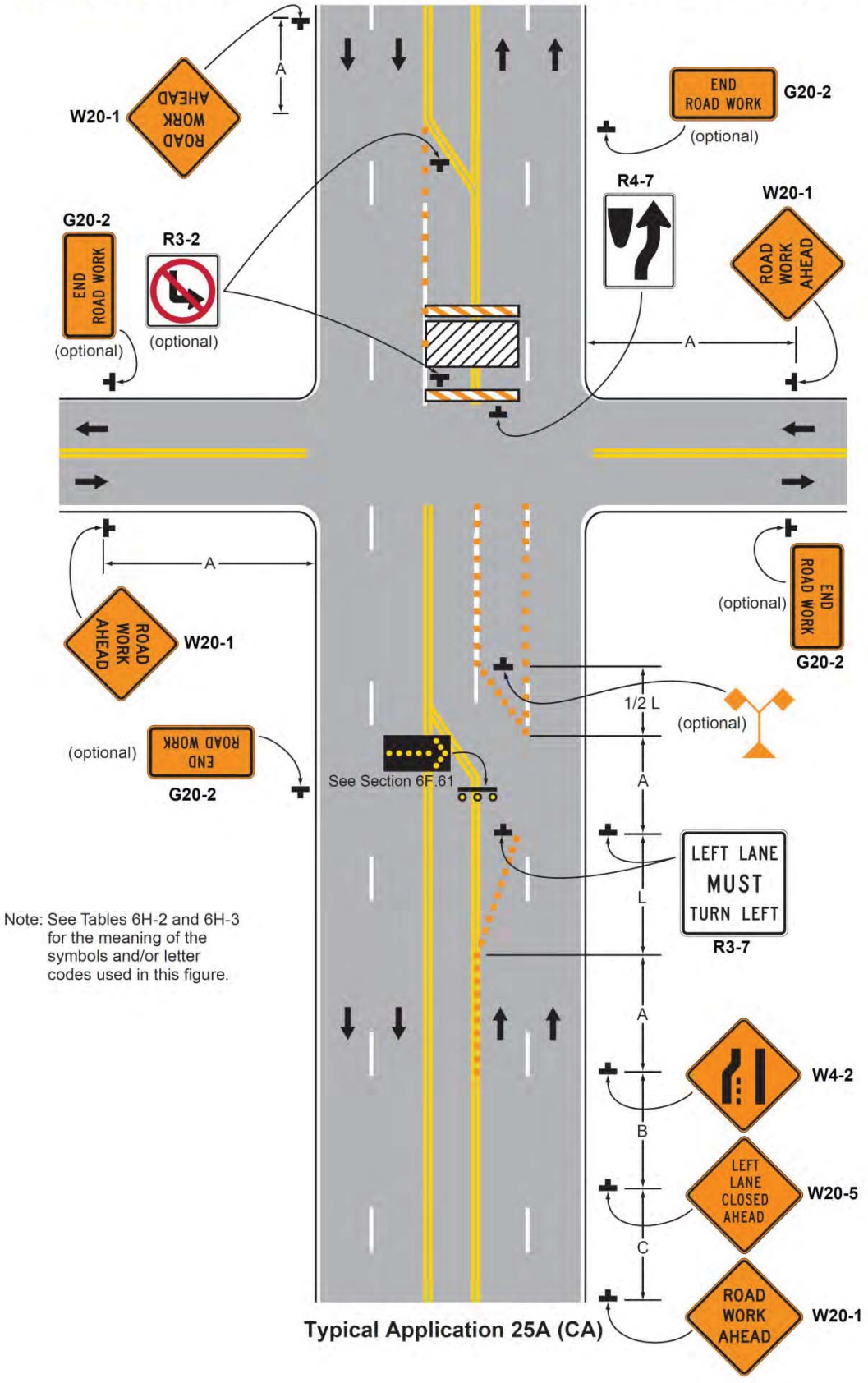
Typical Application 24A (CA)

Figure 6H-25. Multiple Lane Closures at an Intersection (TA-25)



Typical Application 25

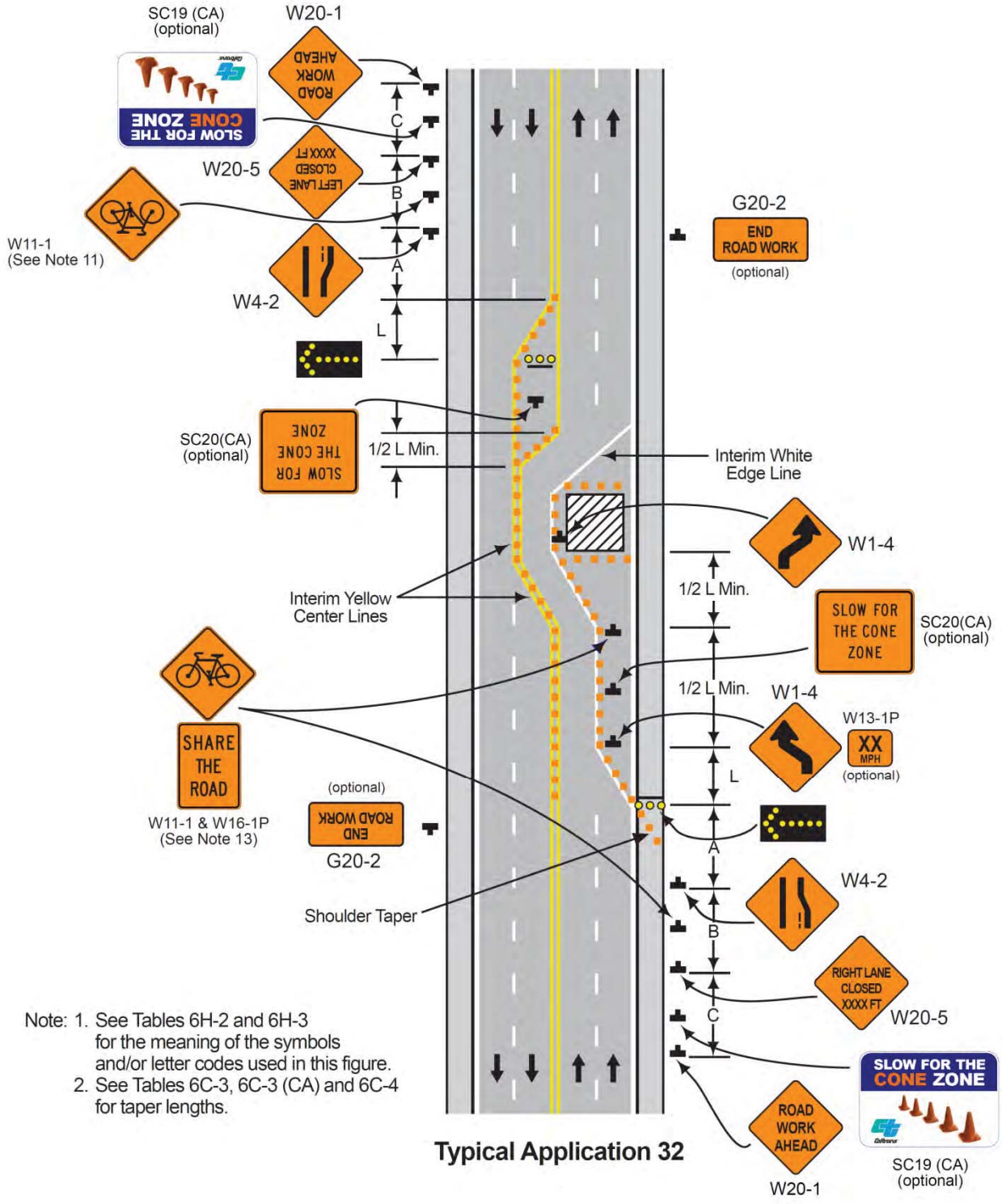
Figure 6H-25A (CA). Multiple Lane Closures at an Intersection (TA-25A(CA))



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 25A (CA)

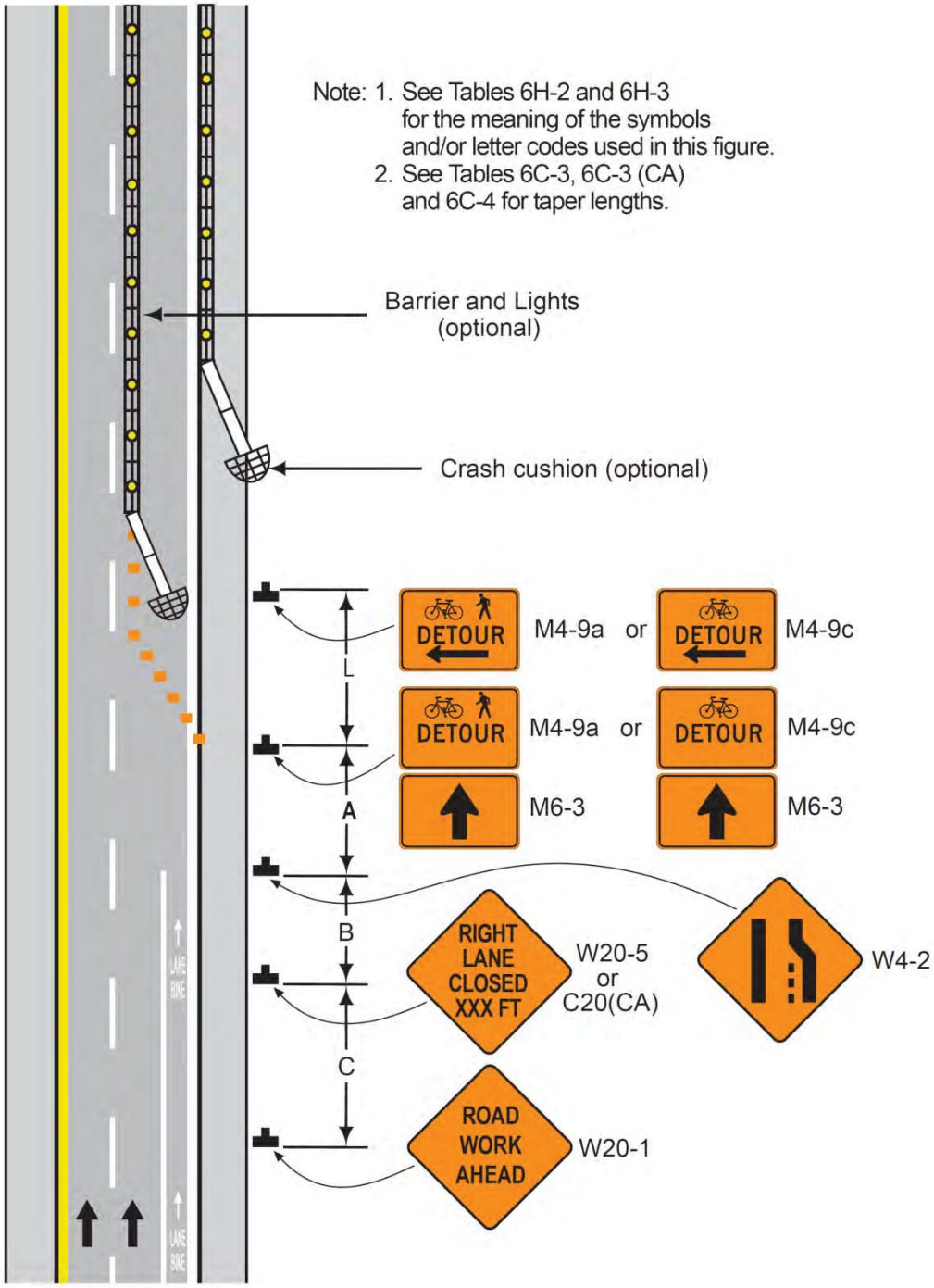
Figure 6H-32 (CA). Half Road Closure on a Multilane, High-Speed Highway (TA-32)



Note: 1. See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.
2. See Tables 6C-3, 6C-3 (CA) and 6C-4 for taper lengths.

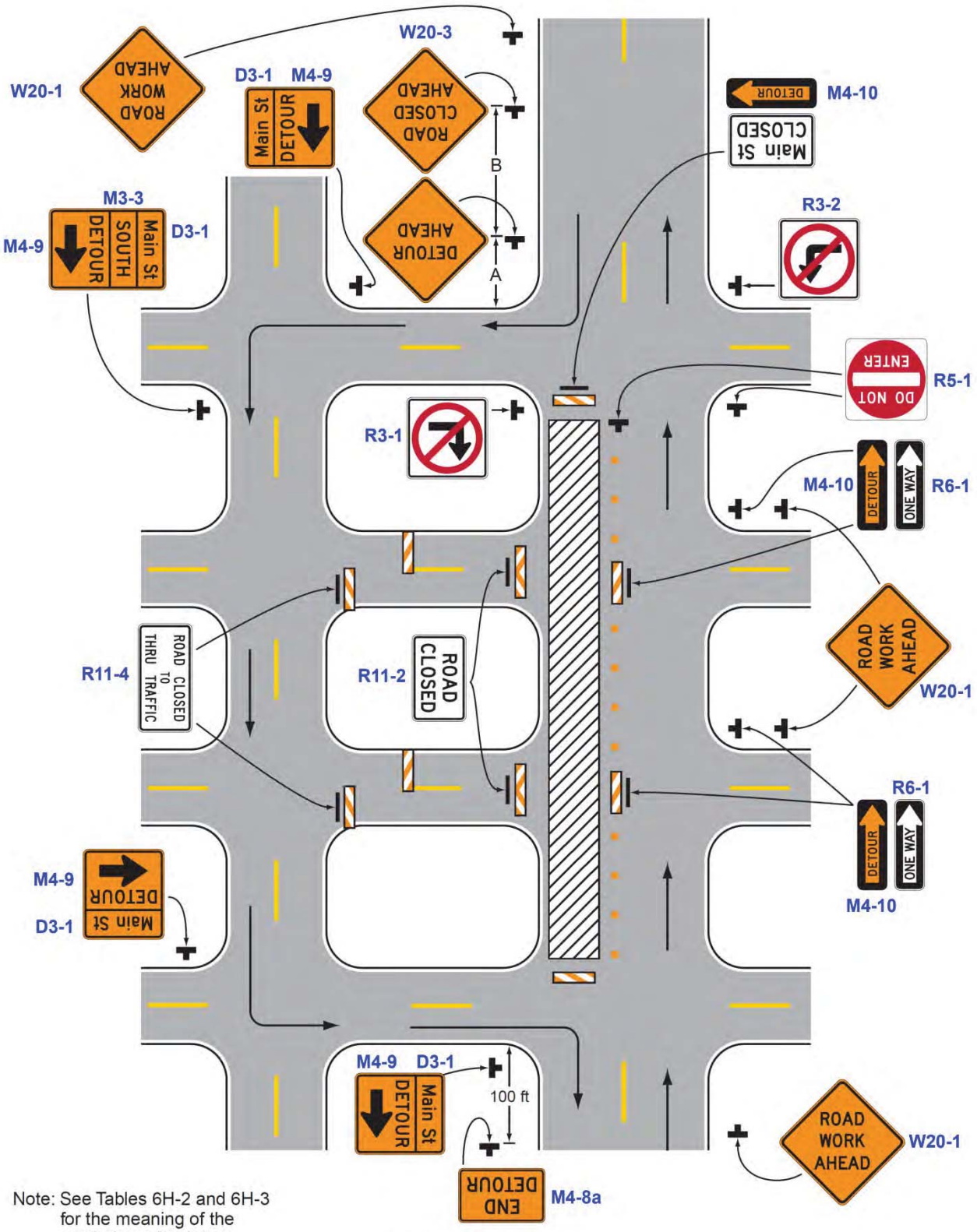
Typical Application 32

Figure 6H-102 (CA). Lane Closure on Freeway, Expressway, Rural and Urban (High Speed) locations to accommodate bicyclists (TA-102 (CA))



Typical Application 102 (CA)

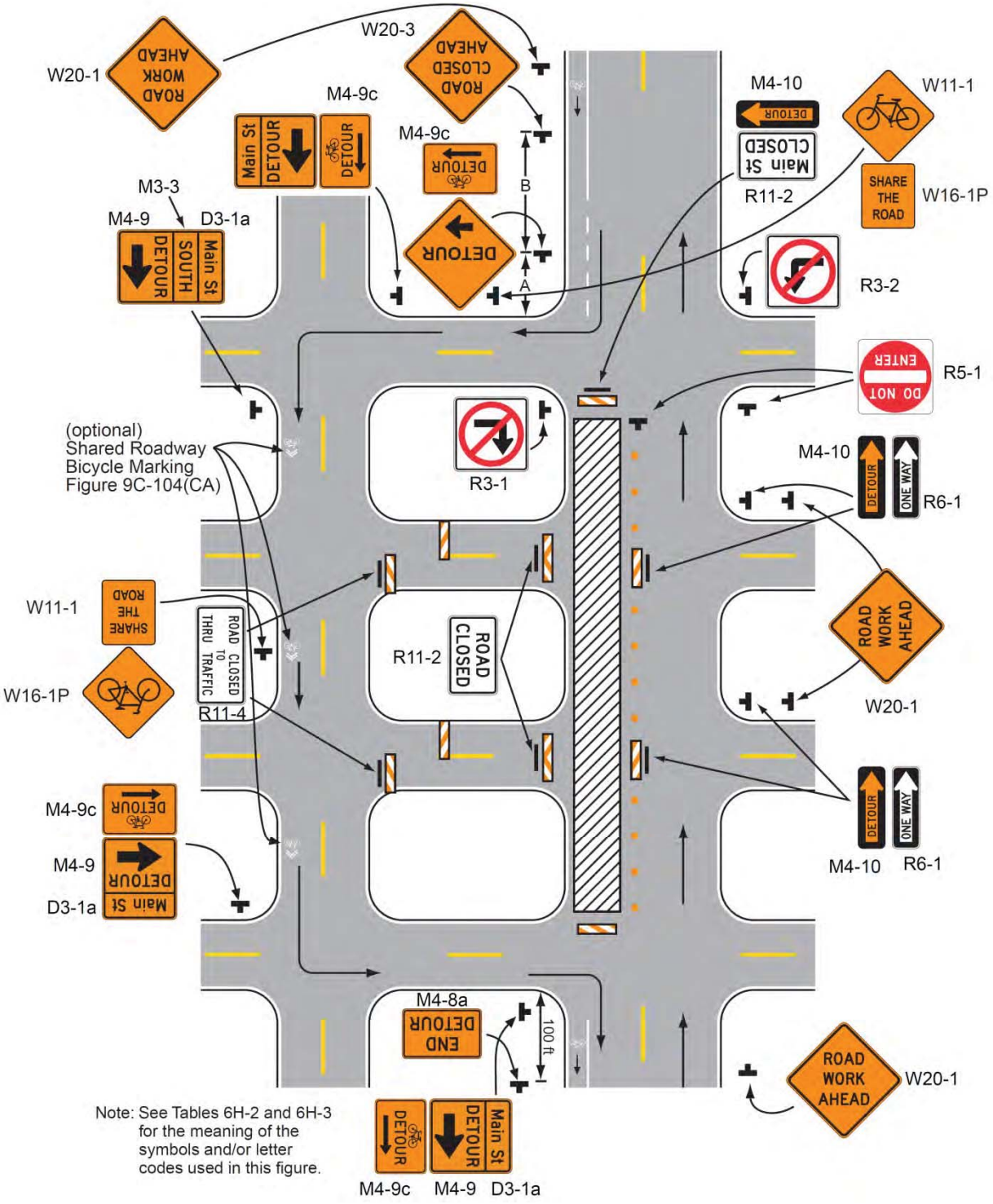
Figure 6H-19. Detour for One Travel Direction (TA-19)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

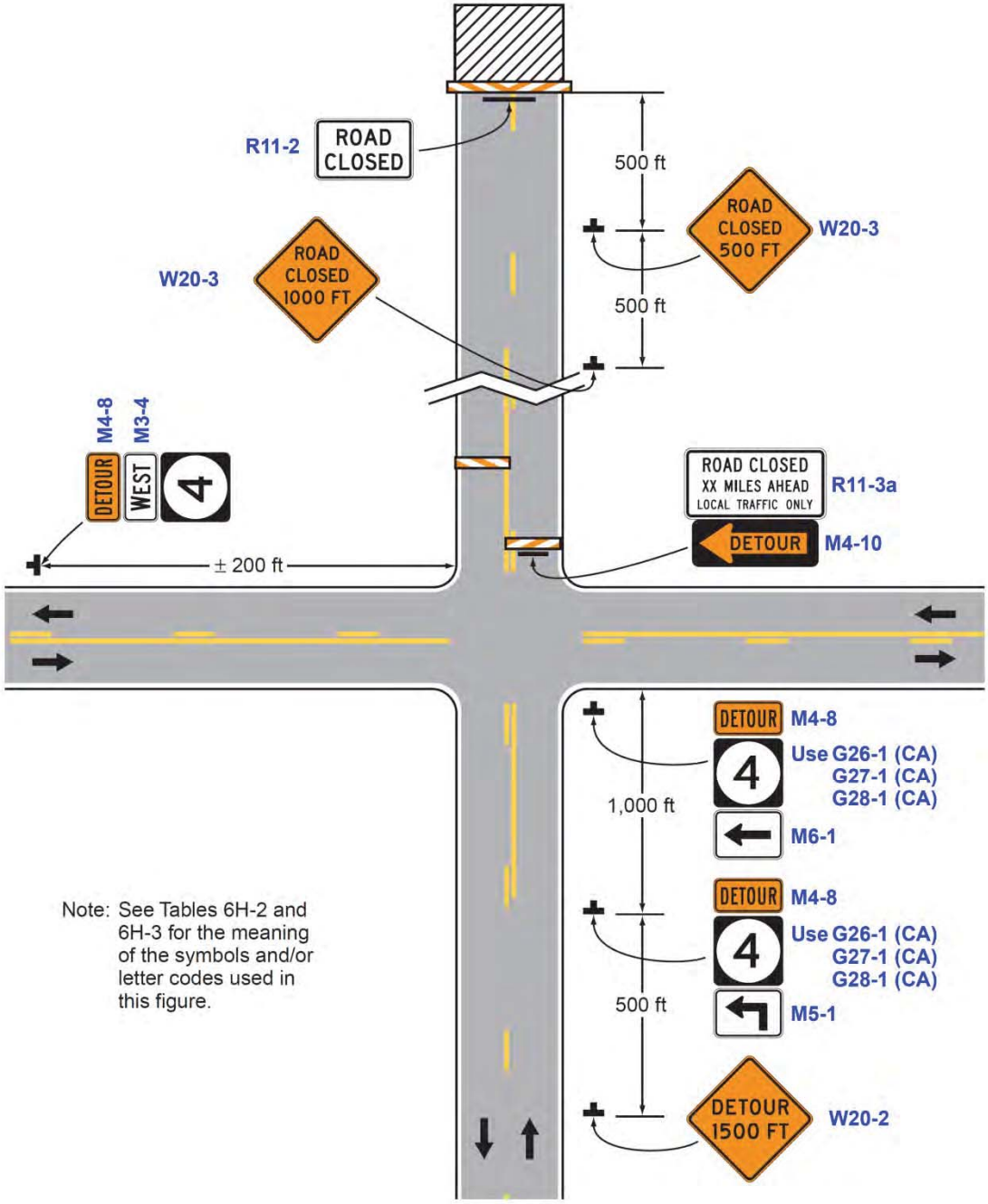
Typical Application 19

Figure 6H-103 (CA). Detour for Bike Lane on Roads with Closure of One Travel Direction (TA-103 (CA))



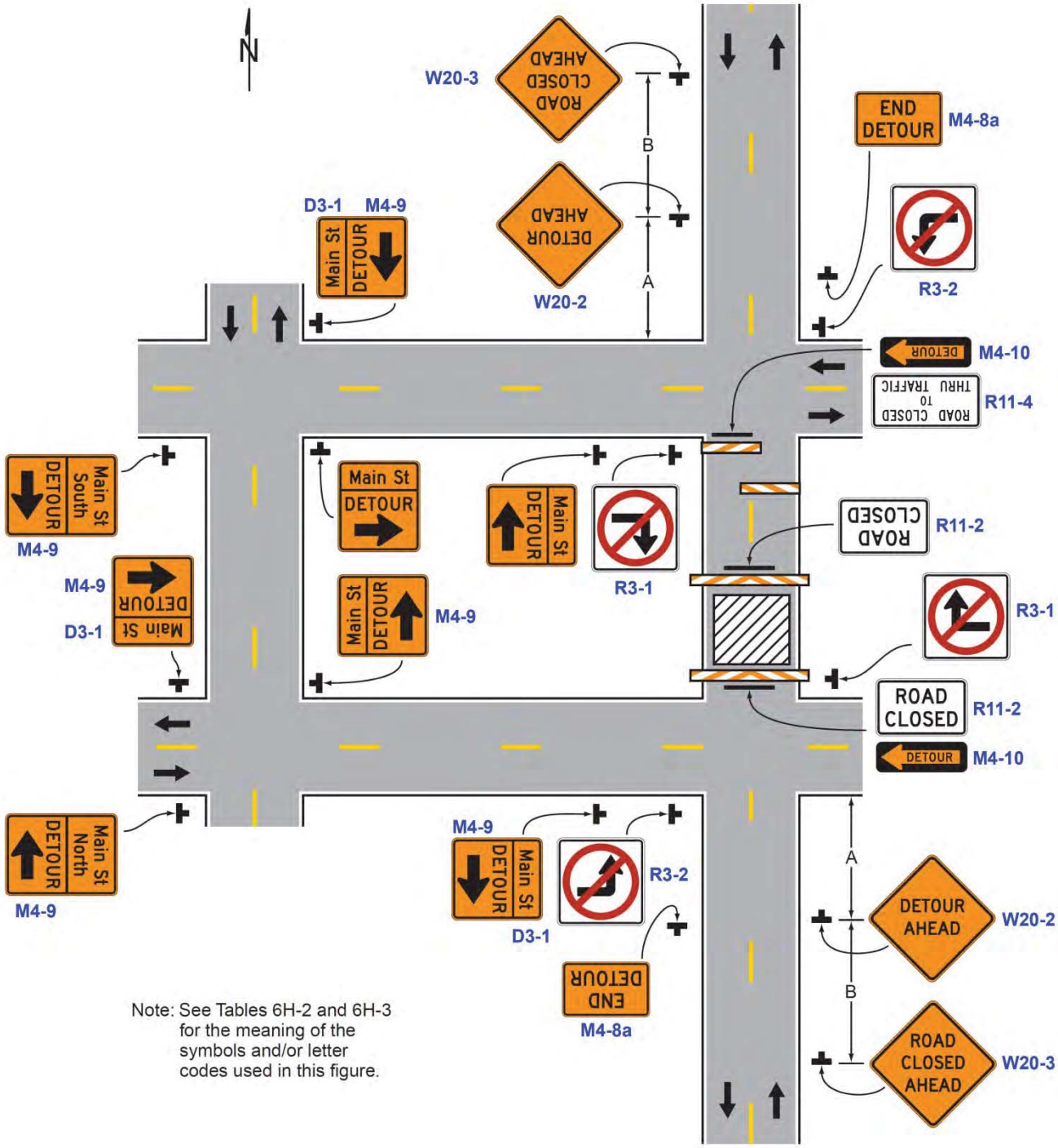
Typical Application 103 (CA)

Figure 6H-8. Road Closure with an Off-Site Detour (TA-8)



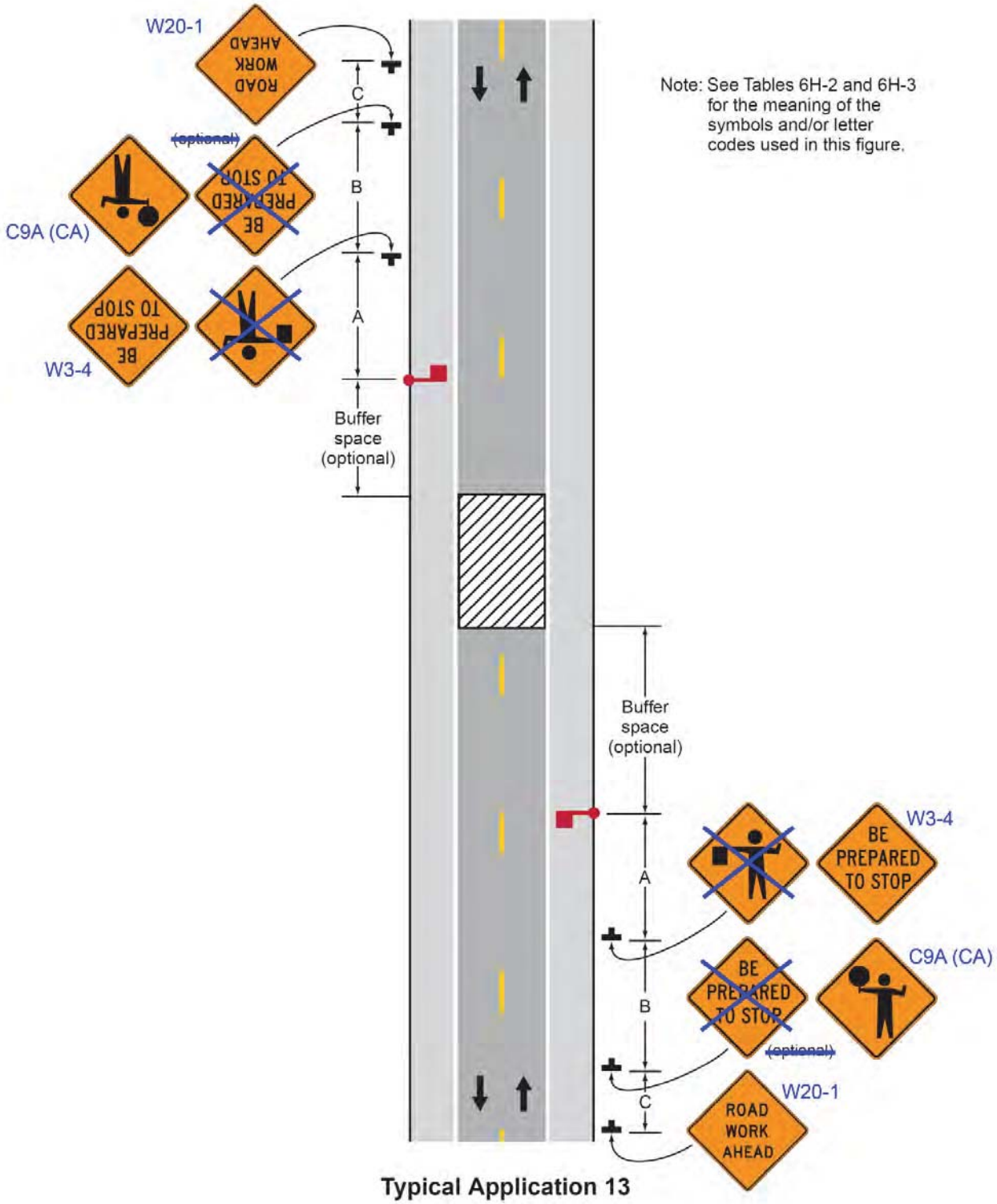
Typical Application 8

Figure 6H-20. Detour for a Closed Street (TA-20)



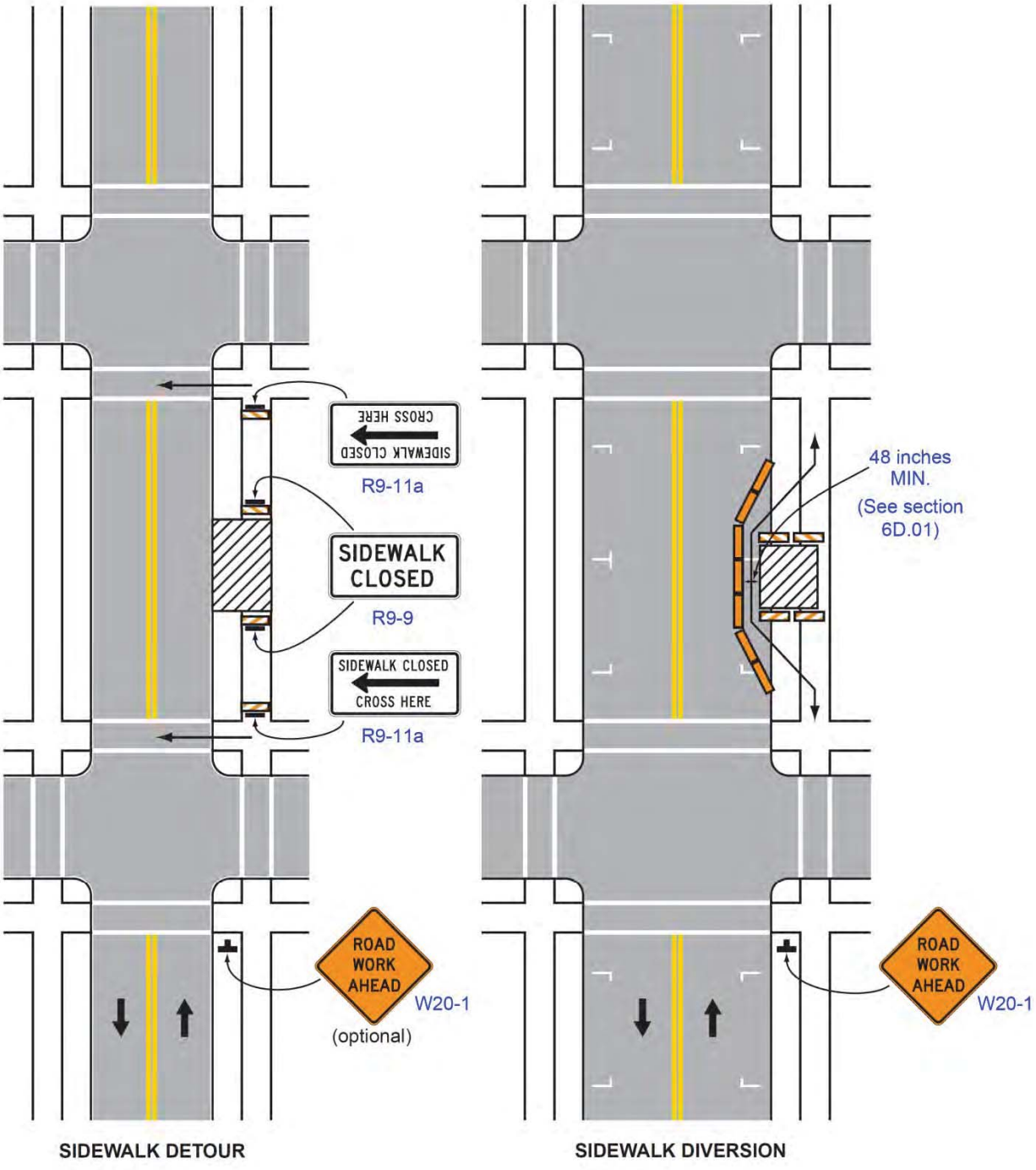
Typical Application 20

Figure 6H-13. Temporary Road Closure (TA-13)



Typical Application 13

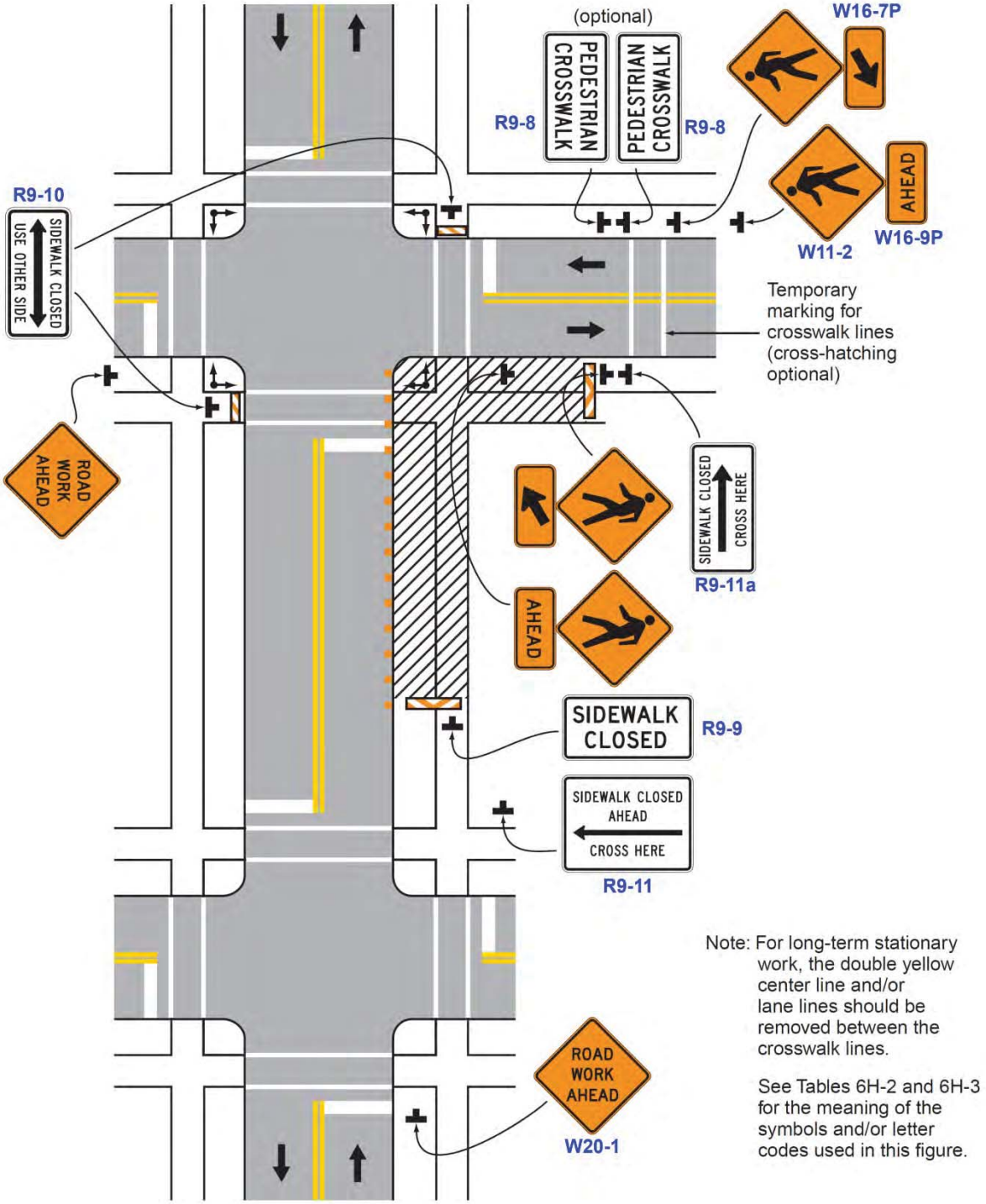
Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

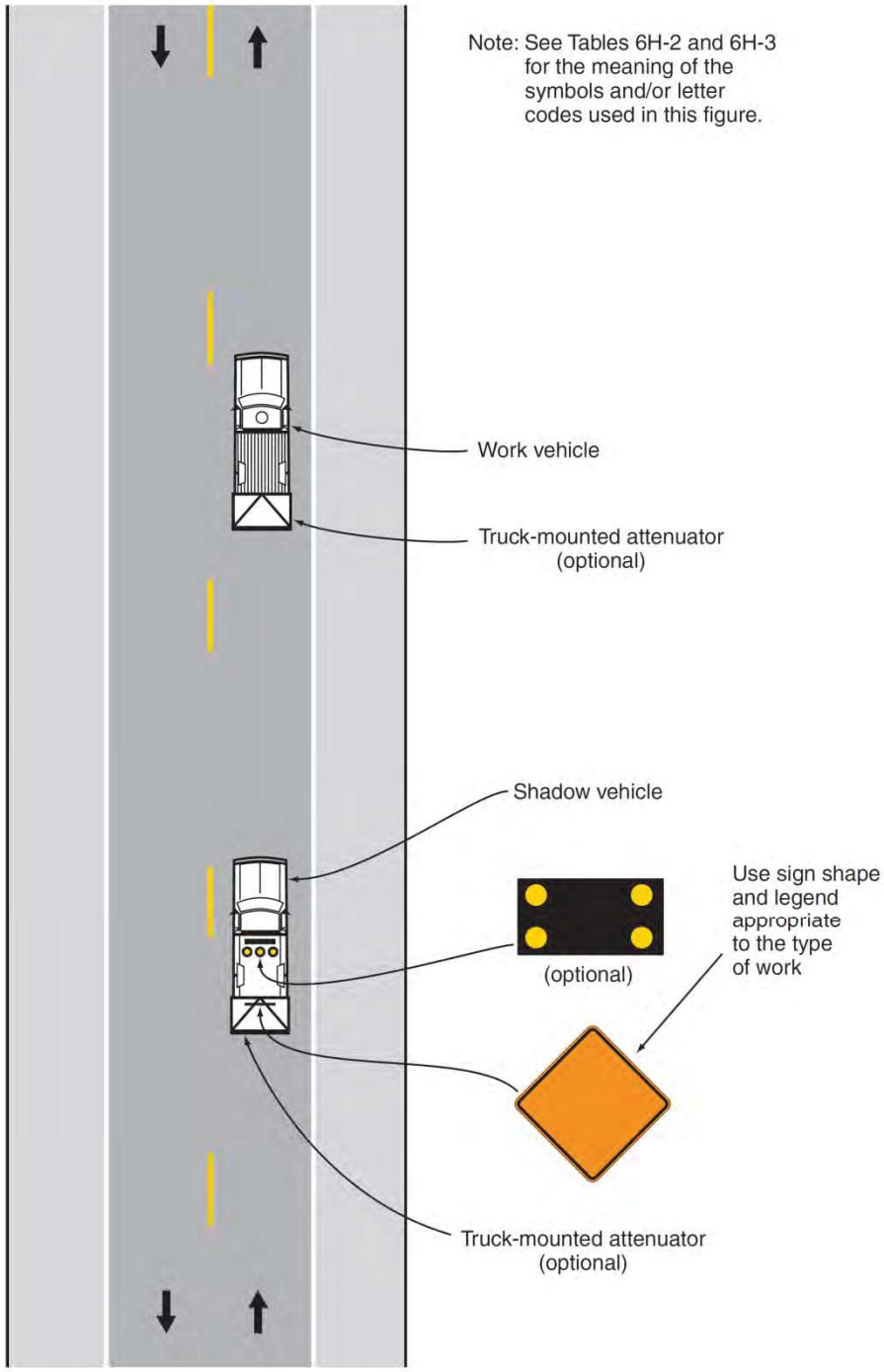
Note: See Tables 6H-2 and 6H-3 the meaning of the symbols and/or letter codes used in this figure.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



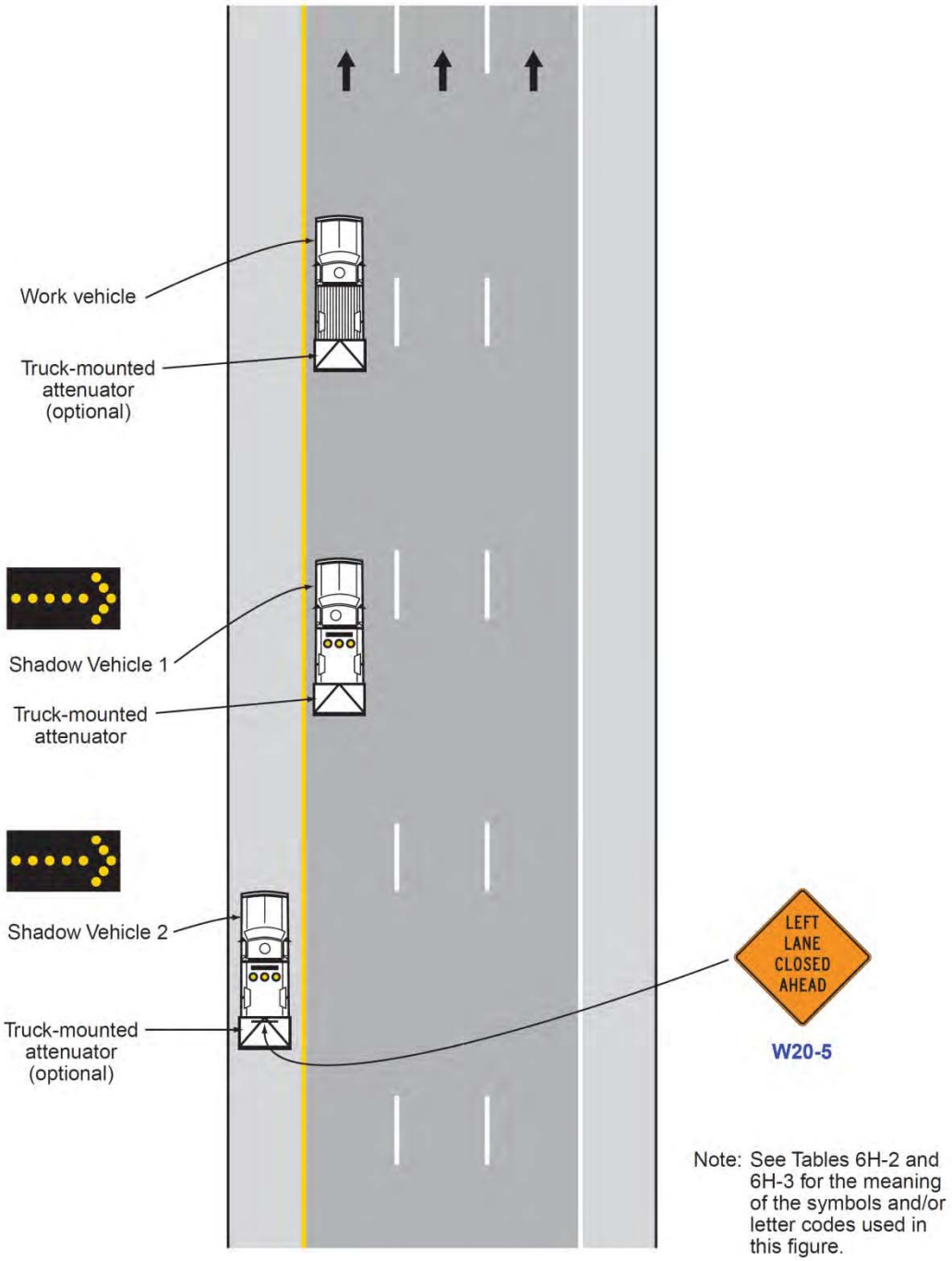
Typical Application 29

Figure 6H-17. Mobile Operations on a Two-Lane Road (TA-17)



Typical Application 17

Figure 6H-35. Mobile Operation on a Multi-Lane Road (TA-35)



Typical Application 35

Figure 6F-1. Height and Lateral Location of Signs—Typical Installations

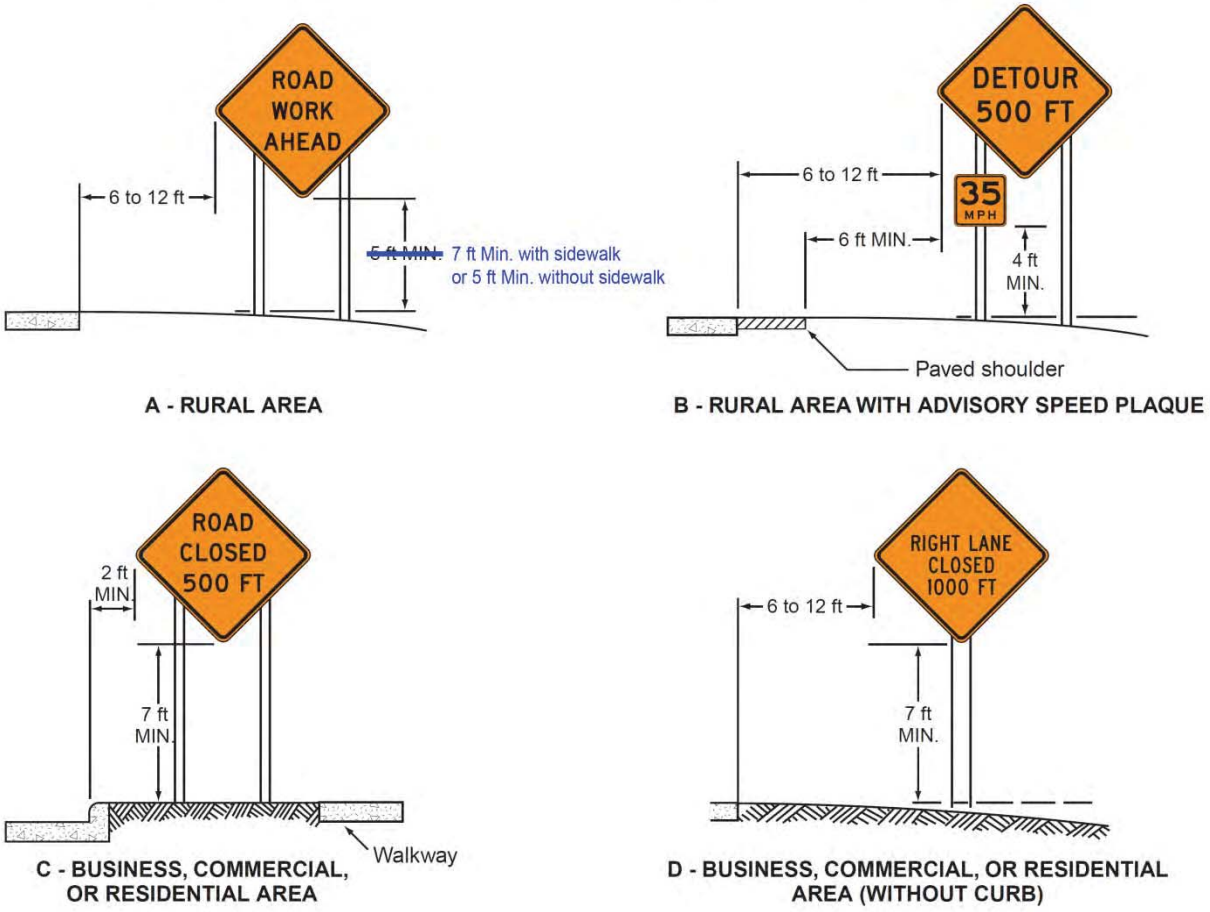


Figure 6F-2. Methods of Mounting Signs Other Than on Posts

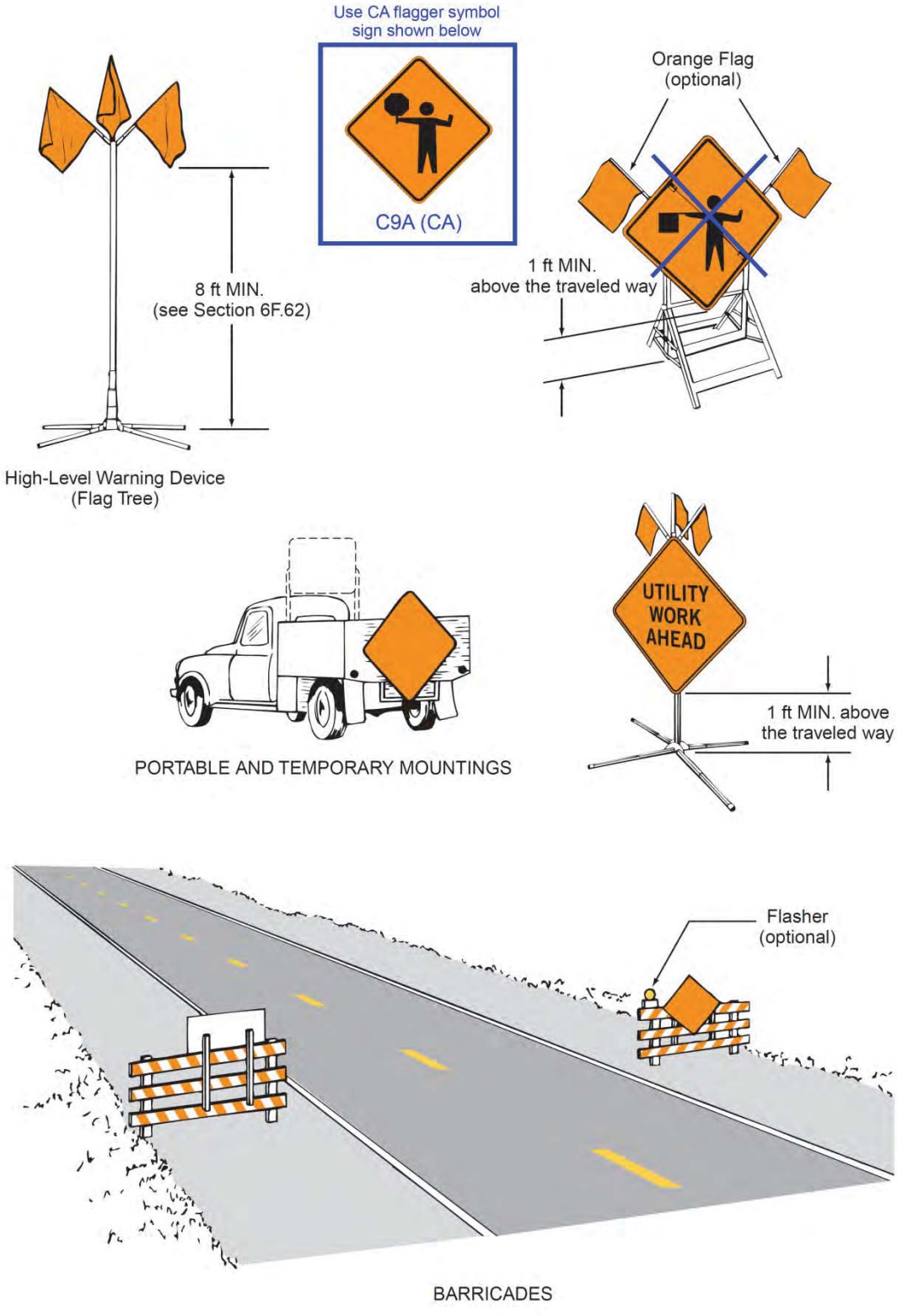


Figure 6F-3. Regulatory Signs and Plaques in Temporary Traffic Control Zones
(Sheet 1 of 2)

Figure 6F-3. Regulatory Signs and Plaques in Temporary Traffic Control Zones
(Sheet 2 of 2)

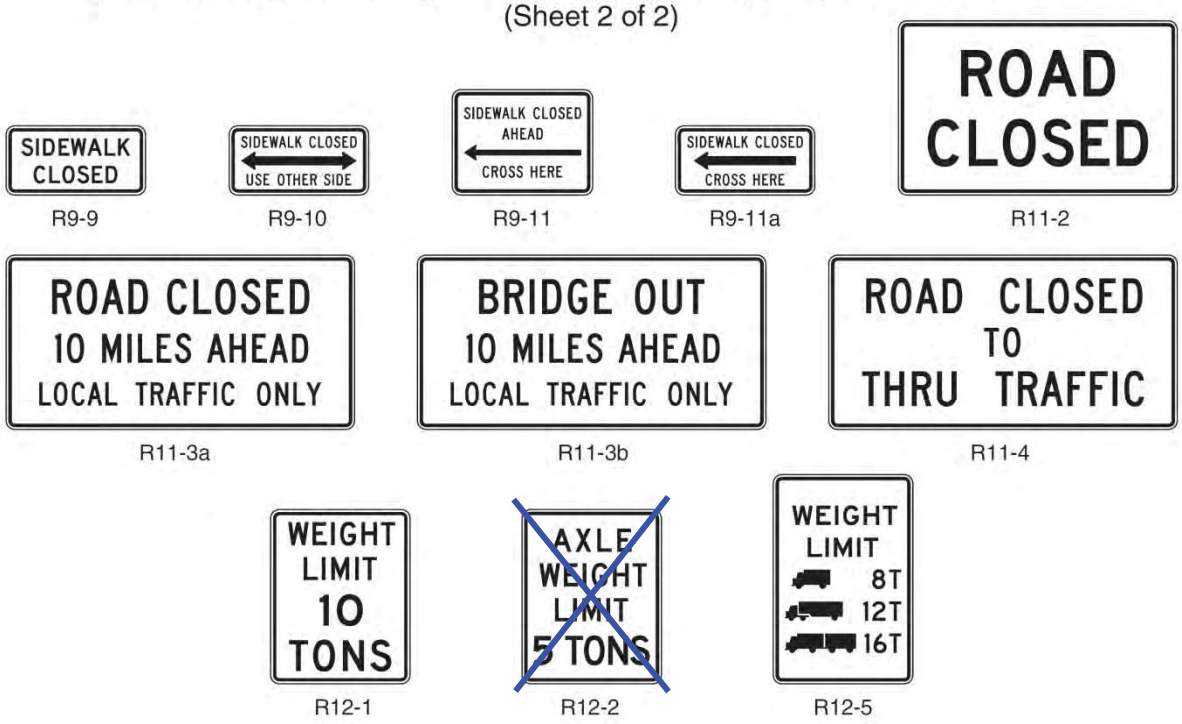


Figure 6F-4. Warning Signs and Plaques in Temporary Traffic Control Zones
(Sheet 1 of 3)

Figure 6F-4. Warning Signs and Plaques in Temporary Traffic Control Zones
(Sheet 2 of 3)

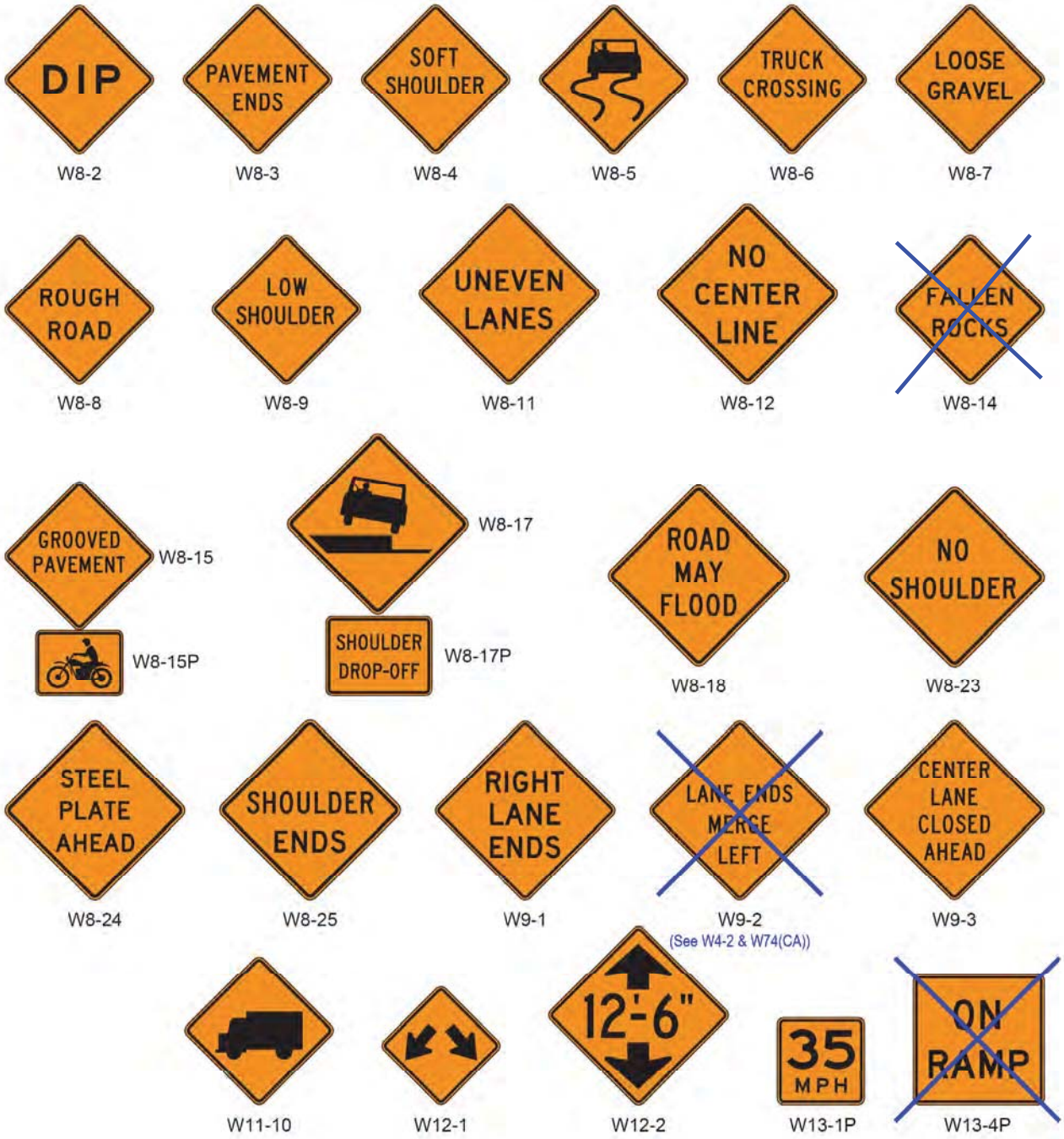
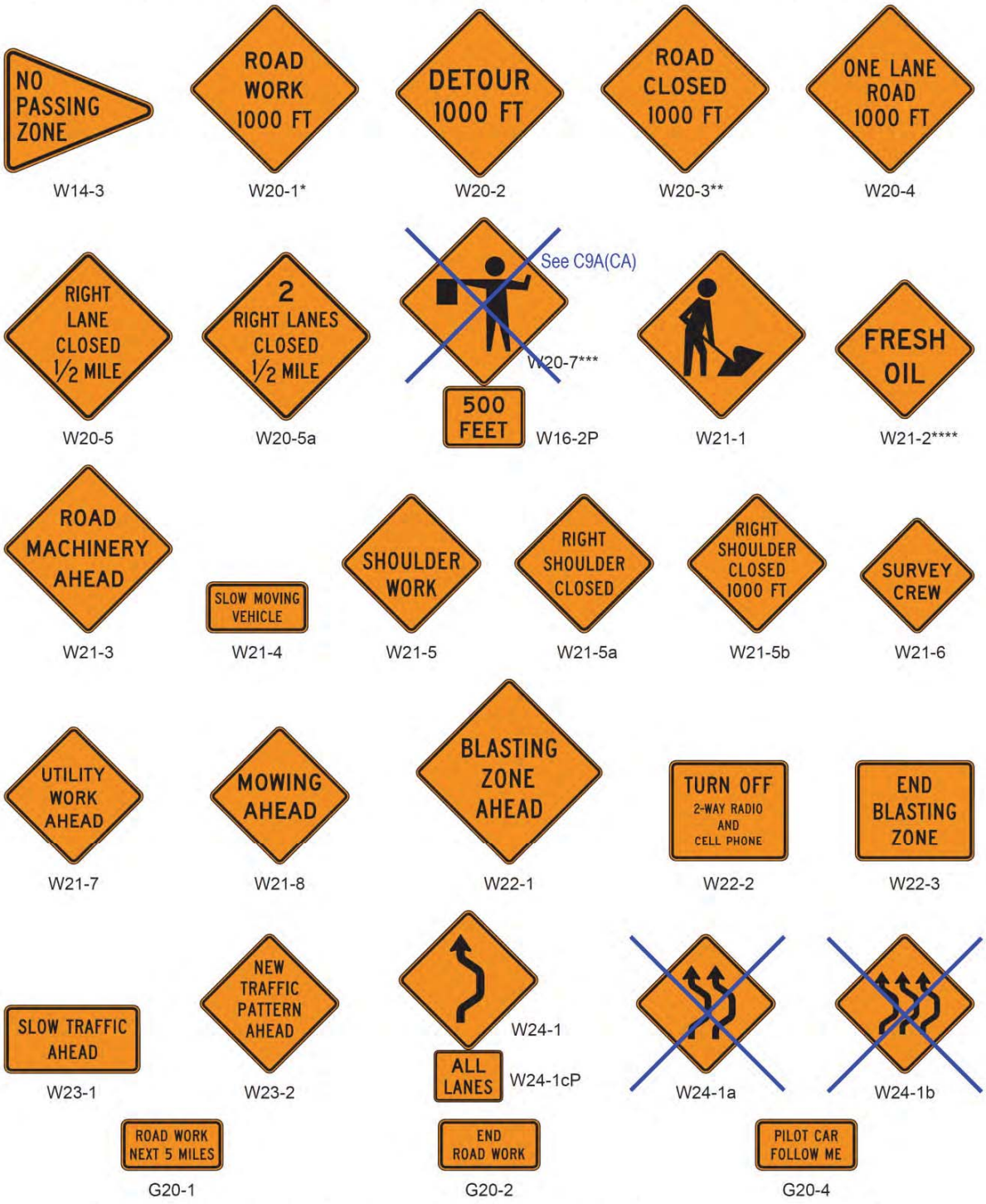


Figure 6F-4. Warning Signs and Plaques in Temporary Traffic Control Zones (Sheet 3 of 3)



* An optional STREET WORK word message sign is shown in the "Standard Highway Signs and Markings" book.
** An optional STREET CLOSED word message sign is shown in the "Standard Highway Signs and Markings" book.
*** An optional FLAGGER (W20-7a) word message sign is shown in the "Standard Highway Signs and Markings" book.
**** An optional FRESH TAR word message sign is show in the "Standard Highway Signs and Markings" book.

Figure 6F-5. Exit Open and Closed and Detour Signs

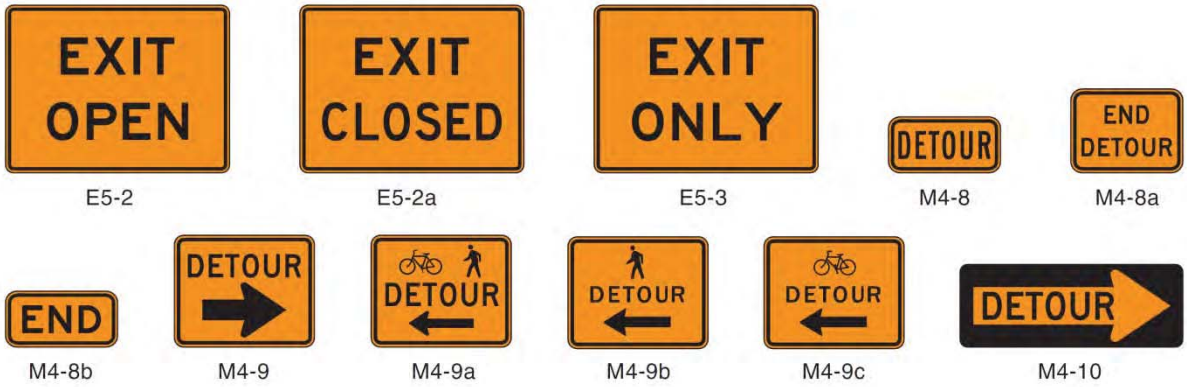


Figure 6F-101 (CA). California Temporary Traffic Control Signs (Sheet 1 of 2)

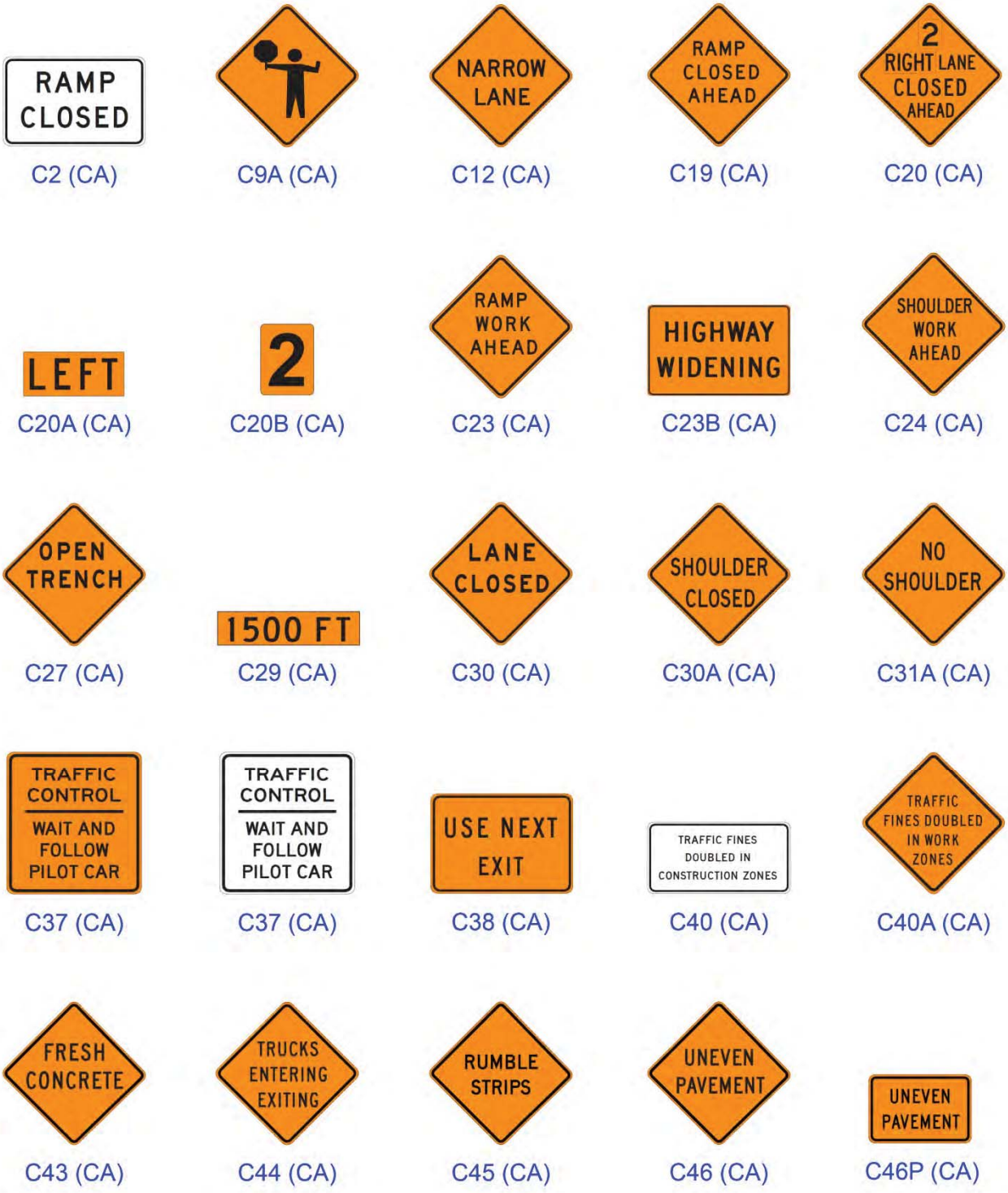


Figure 6F-101 (CA). California Temporary Traffic Control Signs (Sheet 2 of 2)

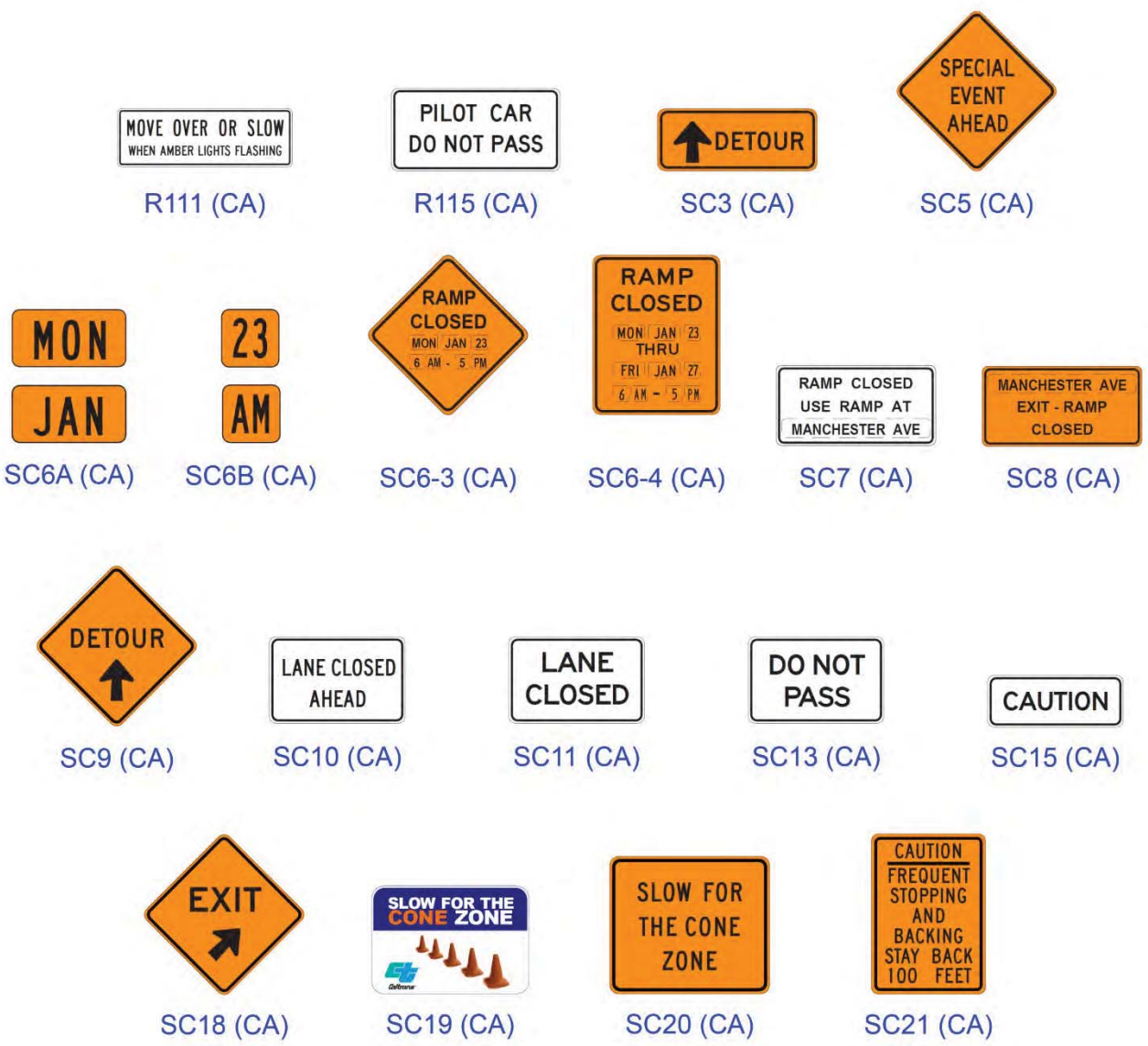
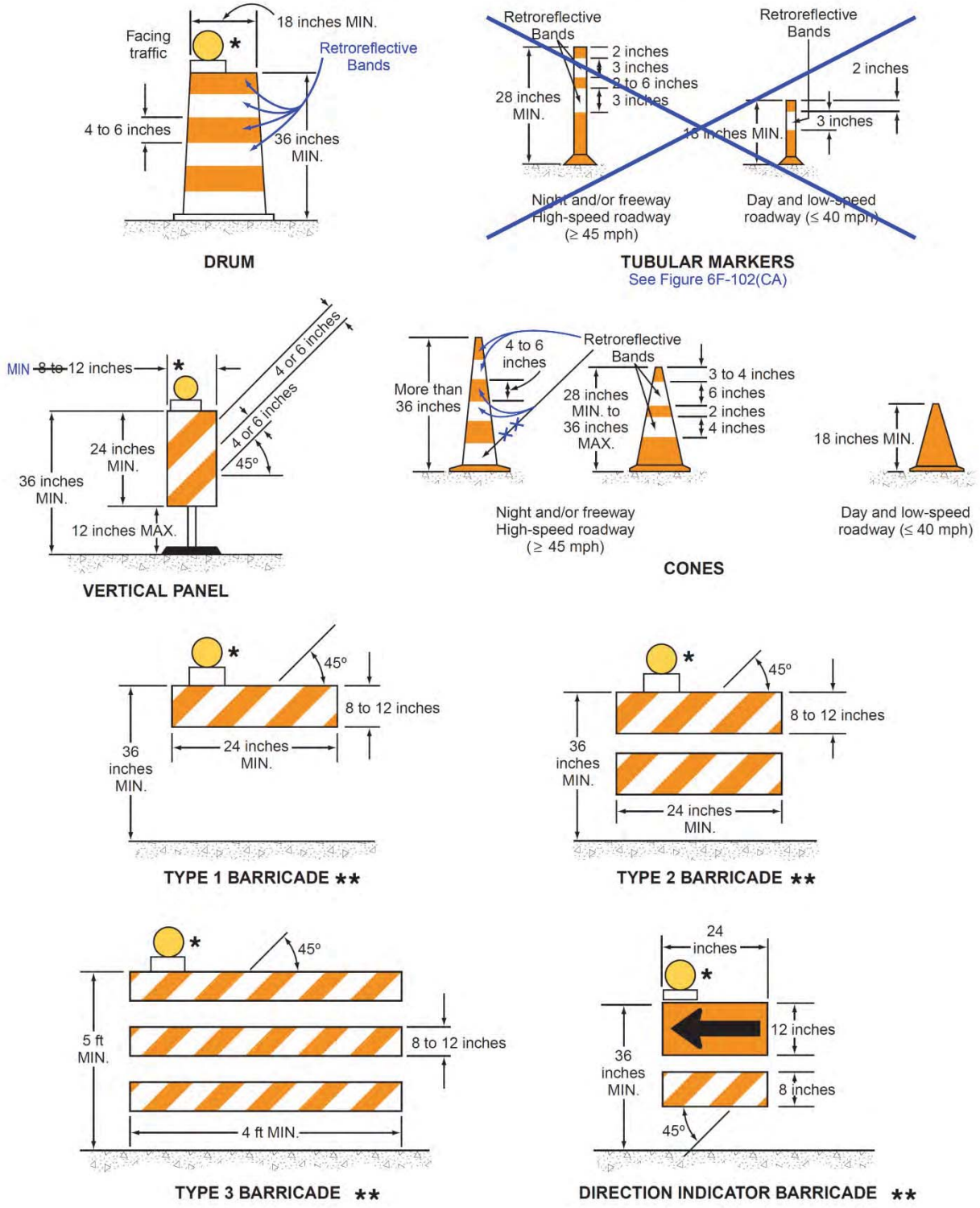


Figure 6F-7. Channelizing Devices



* Warning lights (optional)
** Rail stripe widths shall be 6 inches, except that 4-inch wide stripes may be used if rail lengths are less than 36 inches. The sides of barricades facing traffic shall have retroreflective rail faces.

Table 6F-101(CA). Maximum Spacing of Channelizing Devices

Speed (mph)	Maximum Channelizing Devices Spacing		
	Taper* (feet)	Tangent (feet)	Conflict** (feet)
20	20	40	10
25	25	50	12
30	30	60	15
35	35	70	17
40	40	80	20
45	45	90	22
50	50	100	25
55	50	100	25
60	50	100	25
65	50	100	25
70	50	100	25
75	50	100	25

* Maximum channelizing device spacing for all speeds on one-lane/two-way tapers is 20 feet.
Maximum channelizing device spacing for all speeds on downstream tapers is 20 feet.
All other tapers are as shown.

** Use on intermediate and short-term projects for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizing devices.

Table 6F-1. Temporary Traffic Control Zone Sign and Plaque Sizes (Sheet 1 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway	Minimum	
Stop	R1-1	6F.06	30 x 30*	—	—	
Stop (on Stop/Slow Paddle)	R1-1	6E.03	18 x 18	—	—	
Yield	R1-2	6F.06	36 x 36 x 36*	—	30 x 30 x 30	
To Oncoming Traffic (plaque)	R1-2aP	6F.06	36 x 30	48 x 36	24 x 18	
Wait on Stop	R1-7	6E.05	24 x 30	24 x 30	—	
Go on Slow	R1-8	6E.05	24 x 30	24 x 30	—	
Speed Limit	R2-1	6F.12	24 x 30*	36 x 48	—	
~~Fines Higher (plaque)~~	~~R2-6P~~	~~6F.12~~	~~24 x 18~~	~~36 x 24~~		
Fines Double (plaque)	R2-6aP	6F.12	24 x 18	36 x 24	—	
$XX Fine (plaque)	R2-6bP	6F.12	24 x 18	36 x 24	—	
Begin Double ~~Higher~~ Fines Zone	R2-10	6F.12	24 x 30	36 x 48	—	
End Double ~~Higher~~ Fines Zone	R2-11	6F.12	24 x 30	36 x 48	—	
End Work Zone Speed Limit	R2-12	6F.12	24 x 36	36 x 54	—	
Movement Prohibition	R3-1,2,3,4,18,27	6F.06	24 x 24*	36 x 36	—	
Mandatory Movement (1 lane)	R3-5	6F.06	30 x 36	—	—	
Optional Movement (1 lane)	R3-6	6F.06	30 x 36	—	—	
Mandatory Movement (text)	R3-7	6F.06	30 x 30*	—	—	
Advance Intersection Lane Control	R3-8	6F.06	Varies x 30	—	—	
Do Not Pass	R4-1	6F.06	24 x 30	36 x 48	—	
Pass With Care	R4-2	6F.06	24 x 30	36 x 48	—	
Keep Right	R4-7	6F.06	24 x 30	36 x 48	—	
Narrow Keep Right	R4-7c	6F.06	18 x 30	—	—	
Stay in Lane	R4-9	6F.11	24 x 30	36 x 48	—	
Do Not Enter	R5-1	6F.06	30 x 30*	36 x 36	—	
Wrong Way	R5-1a	6F.06	36 x 24*	42 x 30	—	
One Way	R6-1	6F.06	36 x 12*	54 x 18	—	
One Way	R6-2	6F.06	24 x 30*	36 x 48	—	
~~No Parking (symbol)~~	~~R8-3~~	~~6F.06~~	~~24 x 24~~	~~36 x 36~~	—	
Pedestrian Crosswalk	R9-8	6F.13	36 x 18	—	—	
Sidewalk Closed	R9-9	6F.14	24 x 12	—	—	
Sidewalk Closed, Use Other Side	R9-10	6F.14	24 x 12	—	—	
Sidewalk Closed Ahead, Cross Here	R9-11	6F.14	24 x 18	—	—	
Sidewalk Closed, Cross Here	R9-11a	6F.14	24 x 12	—	—	
Road Closed	R11-2	6F.08	48 x 30	—	—	(Also see C2(CA) Sign Size)
Road Closed - Local Traffic Only	R11-3a,~~3b~~,4	6F.09	60 x 30	—	—	
Weight Limit	R12-1,~~2~~	6F.10	24 x 30	36 x 48	—	
Weight Limit (with symbols)	R12-5	6F.10	24 x 36	36 x 48	—	
Turn and Curve Signs	W1-1,2,3,4	6F.16	36 x 36	48 x 48	30 x 30	
~~Reverse Curve (2 or more lanes)~~	~~W1-4b,4c~~	~~6F.18~~	~~36 x 36~~	~~48 x 48~~	~~30 x 30~~	(See W1-4 Sign Size)
One-Direction Large Arrow	W1-6	6F.16	48 x 24	60 x 30	—	
Chevron	W1-8	6F.16	18 x 24	30 x 36	—	
Stop Ahead	W3-1	6F.16	36 x 36	48 x 48	30 x 30	
Yield Ahead	W3-2	6F.16	36 x 36	48 x 48	30 x 30	
Signal Ahead	W3-3	6F.16	36 x 36	48 x 48	30 x 30	
Be Prepared to Stop	W3-4	6F.16	36 x 36	48 x 48	30 x 30	
Reduced Speed Limit Ahead	W3-5	6F.16	36 x 36	48 x 48	30 x 30	

Table 6F-1. Temporary Traffic Control Zone Sign and Plaque Sizes (Sheet 2 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway	Minimum	
XX MPH Speed Zone Ahead	W3-5a	6F.16	36 x 36	48 x 48	30 x 30	
Merging Traffic	W4-1,5	6F.16	36 x 36	48 x 48	36 x 36	
Lane Ends	W4-2	6F.24	36 x 36	48 x 48	30 x 30	
Added Lane	W4-3,6	6F.16	36 x 36	48 x 48	30 x 30	
No Merge Area (plaque)	W4-5P	6F.16	18 x 24	24 x 30	—	
Road Narrows	W5-1	6F.16	36 x 36	48 x 48	30 x 30	
Narrow Bridge	W5-2	6F.16	36 x 36	48 x 48	30 x 30	
One Lane Bridge	W5-3	6F.16	36 x 36	48 x 48	30 x 30	
~~Ramp Narrows~~	~~W5-4~~	~~6F.26~~	~~36 x 36~~	~~48 x 48~~	~~30 x 30~~	(See W5-1 or C12(CA) Sign Sizes)
Divided Highway	W6-1	6F.16	36 x 36	48 x 48	30 x 30	
Divided Highway Ends	W6-2	6F.16	36 x 36	48 x 48	30 x 30	
Two-Way Traffic	W6-3	6F.32	36 x 36	48 x 48	30 x 30	
Two-Way Traffic	W6-4	6F.76	12 x 18	12 x 18	—	
Hill (symbol)	W7-1	6F.16	36 x 36	48 x 48	30 x 30	
Next XX Miles (plaque)	W7-3aP	6F.53	24 x 18	36 x 30	—	
Bump	W8-1	6F.16	36 x 36	48 x 48	30 x 30	
Dip	W8-2	6F.16	36 x 36	48 x 48	30 x 30	
Pavement Ends	W8-3	6F.16	36 x 36	48 x 48	30 x 30	
Soft Shoulder	W8-4	6F.44	36 x 36	48 x 48	30 x 30	
Slippery When Wet	W8-5	6F.16	36 x 36	48 x 48	30 x 30	
Truck Crossing	W8-6	6F.36	36 x 36	48 x 48	30 x 30	
Loose Gravel	W8-7	6F.16	36 x 36	48 x 48	30 x 30	
Rough Road	W8-8	6F.16	36 x 36	48 x 48	30 x 30	
Low Shoulder	W8-9	6F.44	36 x 36	48 x 48	30 x 30	
Uneven Lanes	W8-11	6F.45	36 x 36	48 x 48	30 x 30	
No Center Line	W8-12	6F.47	36 x 36	48 x 48	30 x 30	
~~Fallen Rocks~~	~~W8-14~~	~~6F.16~~	~~36 x 36~~	~~48 x 48~~	~~36 x 36~~	(See W50-1(CA) Sign)
Grooved Pavement	W8-15	6F.16	36 x 36	48 x 48	30 x 30	
Motorcycle (plaque)	W8-15P	6F.54	24 x 18	30 x 24	—	
Shoulder Drop Off (symbol)	W8-17	6F.44	36 x 36	48 x 48	30 x 30	
Shoulder Drop-Off (plaque)	W8-17P	6F.44	24 x 18	30 x 24	—	
Road May Flood	W8-18	6F.16	36 x 36	48 x 48	24 x 24	
No Shoulder	W8-23	6F.16	36 x 36	48 x 48	30 x 30	
Steel Plate Ahead	W8-24	6F.46	36 x 36	48 x 48	30 x 30	
Shoulder Ends	W8-25	6F.16	36 x 36	48 x 48	30 x 30	
Lane Ends	W9-1~~,2~~	6F.16	36 x 36	48 x 48	30 x 30	
Center Lane Closed Ahead	W9-3	6F.23	36 x 36	48 x 48	30 x 30	
Grade Crossing Advance Warning	W10-1	6F.16	36 dia.	—	—	
Truck	W11-10	6F.36	36 x 36	48 x 48	30 x 30	
Double Arrow	W12-1	6F.16	30 x 30	—	—	
Low Clearance	W12-2	6F.16	36 x 36	48 x 48	30 x 30	
Advisory Speed (plaque)	W13-1P	6F.52	24 x 24	30 x 30	18 x 18	
~~On Ramp (plaque)~~	~~W13-4P~~	~~6F.25~~	~~36 x 36~~	~~36 x 36~~		
No Passing Zone (pennant)	W14-3	6F.16	48 x 48 x 36	64 x 64 x 48	40 x 40 x 30	
XX Feet (plaque)	W16-2P	6F.16	24 x 18	30 x 24	—	
Road Work (with distance)	W20-1	6F.18	36 x 36	48 x 48	30 x 30	(See C23(CA) for RAMP WORK AHEAD Sign)

Table 6F-1. Temporary Traffic Control Zone Sign and Plaque Sizes (Sheet 3 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway	Minimum	
Detour (with distance)	W20-2	6F.19	36 x 36	48 x 48	30 x 30	
Road (Street) Closed (with distance)	W20-3	6F.20	36 x 36	48 x 48	30 x 30	(See C19(CA) for RAMP CLOSED Sign)
One Lane Road (with distance)	W20-4	6F.21	36 x 36	48 x 48	30 x 30	
Lane(s) Closed (with distance)	W20-5,5a	6F.22	36 x 36	48 x 48	30 x 30	(Also See C20(CA) Sign Size)
~~Flagger (symbol)~~	~~W20-7~~	~~6F.31~~	~~36 x 36~~	~~48 x 48~~	~~36 x 36~~	
Flagger	W20-7a	6F.31	36 x 36	48 x 48	30 x 30	(Also See C9A(CA) Sign Size)
Slow (on Stop/Slow Paddle)	W20-8	6E.03	18 x 18	—	—	
Workers	W21-1,1a	6F.33	36 x 36	48 x 48	30 x 30	
Fresh Oil (Tar)	W21-2	6F.34	36 x 36	48 x 48	30 x 30	
Road Machinery Ahead	W21-3	6F.35	36 x 36	48 x 48	30 x 30	
Slow Moving Vehicle	W21-4	6G.06	36 x 18	—	—	
Shoulder Work	W21-5	6F.37	36 x 36	48 x 48	30 x 30	
Shoulder Closed	W21-5a	6F.37	36 x 36	48 x 48	30 x 30	
Shoulder Closed (with distance)	W21-5b	6F.37	36 x 36	48 x 48	30 x 30	
Survey Crew	W21-6	6F.38	36 x 36	48 x 48	30 x 30	
Utility Work Ahead	W21-7	6F.39	36 x 36	48 x 48	30 x 30	
Mowing Ahead	W21-8	6G.06	36 x 36	48 x 48	30 x 30	
Blasting Zone Ahead	W22-1	6F.41	36 x 36	48 x 48	30 x 30	
Turn Off 2-Way Radio and Cell Phone	W22-2	6F.42	42 x 36	42 x 36	—	
End Blasting Zone	W22-3	6F.43	42 x 36	42 x 36	36 x 30	
Slow Traffic Ahead	W23-1	6F.27	54 x 30 ~~48 x 24~~	72 x 42 ~~48 x 24~~	48 x 24	
New Traffic Pattern Ahead	W23-2	6F.30	36 x 36	48 x 48	30 x 30	
Double Reverse Curve (1 lane)	W24-1	6F.49	36 x 36	48 x 48	30 x 30	
~~Double Reverse Curve (2 lanes)~~	~~W24-1a~~	~~6F.49~~	~~36 x 36~~	~~48 x 48~~	~~30 x 30~~	(See W24-1 Sign Size)
~~Double Reverse Curve (3 lanes)~~	~~W24-1b~~	~~6F.49~~	~~36 x 36~~	~~48 x 48~~	~~30 x 30~~	(See W24-1 Sign Size)
All Lanes	W24-1cP	6F.49	24 x ~~24~~ 18	30 x ~~30~~ 24	—	
Road Work (Construction) Next XX Miles	G20-1	6F.56	60 x 36 ~~36 x 18~~	90 x 48 ~~48 x 24~~	36 x 18	
End Road Work	G20-2	6F.57	36 x 18	48 x 24	—	
Pilot Car Follow Me	G20-4	6F.58	36 x 18	—	—	
Work Zone (plaque)	G20-5aP	6F.12	24 x 18	36 x 24	—	
Exit Open	E5-2	6F.28	48 x 36	48 x 36	—	
Exit Closed	E5-2a	6F.28	48 x 36	48 x 36	—	
Exit Only	E5-3	6F.29	48 x 36	48 x 36	—	
Detour	M4-8	6F.59	24 x 12	30 x 15	—	
End Detour	M4-8a	6F.59	24 x 18	24 x 18	—	
End	M4-8b	6F.59	24 x 12	24 x 12	—	
Detour	M4-9	6F.59	30 x 24	48 x 36	—	
Bike/Pedestrian Detour	M4-9a	6F.59	30 x 24	—	—	
Pedestrian Detour	M4-9b	6F.59	30 x 24	—	—	
Bike Detour	M4-9c	6F.59	30 x 24	—	—	
Detour	M4-10	6F.59	48 x 18	—	—	

* See Table 2B-1 for minimum size required for signs facing traffic on multi-lane conventional roads

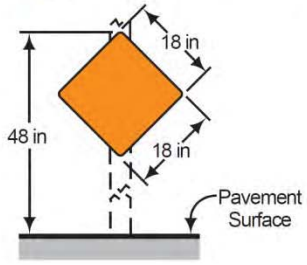
Notes: 1. Larger signs may be used wherever necessary for greater legibility or emphasis
2. Dimensions are shown in inches and are shown as width x height

Table 6F-1(CA). California Temporary Traffic Control Zone Sign and Plaque Sizes

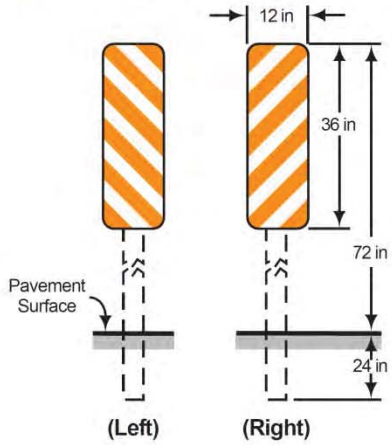
Sign or Plaque	Sign Designation	Section	Conventional Road (Minimum)	Expressway	Freeway	Oversized
RAMP CLOSED	C2(CA)	6F.28	48 x 30	48 x 30	48 x 30	---
California Flagger Symbol	C9A(CA)	6F.31	36 x 36	48 x 48	48 x 48	---
NARROW LANE(S)	C12(CA)	6F.26, 6F.102(CA)	36 x 36	48 x 48	48 x 48	---
RAMP CLOSED AHEAD	C19(CA)	6F.28	36 x 36	48 x 48	48 x 48	---
RIGHT LANE CLOSED AHEAD	C20(CA)	6F.22	36 x 36	48 x 48	48 x 48	72 x 72
LEFT plaque	C20A(CA)	6F.22	16 x 7	19 x 8	19 x 8	33 x 10
Numeral plaque	C20B(CA)	6F.22	6 x 8	8 x 10	8 x 10	10 x 12
RAMP WORK AHEAD	C23(CA)	6F.18	36 x 36	48 x 48	48 x 48	---
ROAD (STREET) WORK Informational plaque	C23B(CA)	6F.18	Var x 18	Var x 24	Var x 24	---
SHOULDER WORK AHEAD	C24(CA)	6F.37	30 x 30	48 x 48	48 x 48	---
OPEN TRENCH	C27(CA)	6F.103(CA)	36 x 36	48 x 48	48 x 48	---
~~STOP Paddle (not assigned)~~	~~C28A(CA)~~	~~6E.03, 6E.07, 7D.03, 7D.05~~	~~18 x 18~~	~~18 x 18~~	~~---~~	~~24 x 24~~
~~SLOW Paddle (not assigned)~~	~~C28B(CA)~~	~~6E.03, 6E.07~~	~~18 x 18~~	~~18 x 18~~	~~---~~	~~24 x 24~~
XXXX FT	C29(CA)	6F.53	20 x 7	36 x 9	36 x 9	---
LANE CLOSED	C30(CA)	6F.22	30 x 30	48 x 48	48 x 48	---
SHOULDER CLOSED	C30A(CA)	6F.37	30 x 30	48 x 48	48 x 48	---
NO SHOULDER	C31A(CA)	6F.44, 6F.103(CA)	36 x 36	48 x 48	48 x 48	---
TRAFFIC CONTROL - WAIT AND FOLLOW PILOT CAR	C37(CA)	6F.58	36 x 42	36 x 42	---	---
USE NEXT EXIT	C38(CA)	6F.28	---	48 x 36	48 x 36	---
TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	C40(CA)	6F.12	108 x 42	144 x 60	144 x 60	---
TRAFFIC FINES DOUBLED IN WORK ZONES	C40A(CA)	6F.12	36 x 36	48 x 48	48 x 48	---
FRESH CONCRETE	C43(CA)	6F.107(CA)	36 x 36	48 x 48	48 x 48	---
TRUCKS ENTERING EXITING	C44(CA)	6F.36	36 x 36	48 x 48	48 x 48	---
RUMBLE STRIPS	C45(CA)	6F.87	36 x 36	48 x 48	---	---
UNEVEN PAVEMENT	C46(CA)	6F.45	36 x 36	48 x 48	48 x 48	---
UNEVEN PAVEMENT plaque	C46P(CA)	6F.45	30 x 18	36 x 24	36 x 24	---
MOVE OVER OR SLOW WHEN AMBER LIGHTS FLASHING	R111(CA)	6F.108(CA)	54 x 18	54 x 18	54 x 18	---
PILOT CAR DO NOT PASS	R115(CA)	6F.58	36 x 18	36 x 18	---	---
DETOUR with Arrow	SC3(CA)	6F.59	36 x 12	48 x 18	48 x 18	---
SPECIAL EVENT AHEAD	SC5(CA)	6F.18	36 x 36	48 x 48	48 x 48	---
RAMP CLOSED (Not more than one day)	SC6-3(CA)	6F.28	48 x 48	48 x 48	48 x 48	---
RAMP CLOSED (More than one day)	SC6-4(CA)	6F.28	48 x 60	48 x 60	48 x 60	---
Day/Month plaque	SC6A(CA)	6F.28	12 x 6	12 x 6	12 x 6	---
Time plaque	SC6B(CA)	6F.28	6 x 6	6 x 6	6 x 6	---
RAMP CLOSED, USE RAMP AT ___	SC7(CA)	6F.28	84 x 42	84 x 42	84 x 42	---
___ EXIT - RAMP CLOSED	SC8(CA)	6F.28	---	84 x 42	84 x 42	---
(FWY) DETOUR with Arrow	SC9(CA)	6F.59	36 x 36	48 x 48	48 x 48	---
LANE CLOSED AHEAD or ROAD WORK AHEAD	SC10(CA)	6F.104(CA)	48 x 30	66 x 36	66 x 36	---
LANE CLOSED	SC11(CA)	6F.104(CA)	42 x 30	54 x 42	54 x 42	---
DO NOT PASS	SC13(CA)	6F.104(CA)	42 x 30	54 x 42	54 x 42	---
CAUTION	SC15(CA)	6F.104(CA)	42 x 18	54 x 24	54 x 24	---
EXIT with Arrow	SC18(CA)	6F.28	---	48 x 48	48 x 48	---
Slow For The Cone Zone	SC19(CA)	6F.106(CA)	54 x 36	54 x 36	54 x 36	114 x 78
SLOW FOR THE CONE ZONE	SC20(CA)	6F.106(CA)	42 x 36	54 x 48	54 x 48	---
CAUTION FREQUENT STOPPING AND BACKING STAY BACK 100 FEET	SC21(CA)	6F.108(CA)	30 x 42	30 x 42	30 x 42	---
FLOODING AHEAD TURN AROUND DON'T DROWN	W86(CA)	6I.101(CA)	30 x 24	---	---	---

Figure 6F-103 (CA). Examples of Object Markers in Temporary Traffic Control Zones

Type N-3 (CA) Object Marker (OM1-3)



Type P (CA) Object Markers (OM-3L&R)



Type R (CA) Object Marker (OM-3C)