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Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

Colorado Department of Transportation

Traffic Safety & Engineering Services

2829 West Howard Place
Denver, CO 80204

EB

Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.

S-630-1

Standard Sheet No. 1 of 26

Project Sheet Number:

General Notes

1. All construction zone traffic control devices, including but not limited to barricades, signs, arrow panels, flashing beacon (portable), and channelizing devices, shall be furnished, installed, maintained (including washing), replaced if damaged, removed when temporarily not in use and returned when required, reset as necessary during the progress of construction, and removed entirely when the project is completed. All devices shall meet the requirements of the latest edition of the ATSSA "Quality Guidelines for Temporary Traffic Control Devices & Features".

2. Work on the project shall not be started until all required traffic control devices are in place, and approved by the Engineer.

3. When speed limit reduction is required, such reduction shall be in accordance with CDOT Form 568, "CDOT Temporary Speed Limit Reduction."

   When a change in an existing speed limit is required, the R2-1 signs, shown on the schedule of construction traffic control devices, should be installed at the locations shown on the typical cases by R2-1 (Optional) signs.

   An advisory speed plaque (W13-1p) may be used with a warning sign when the maximum recommended speed for condition named is lower than the posted speed limit.

   The regulatory or advisory speed reduction displayed shall not exceed 15 mph per sign installation.

4. Work Zone (G20-5p) and Fines Double (R2-6p) signs shall be provided every 2640' between R2-10 and R2-11 signs. The spacing of these signs may be changed as directed by the Engineer.

5. Any traffic control device that is damaged, weathered, worn, or otherwise deemed no longer serviceable by the Engineer, shall be replaced.

6. Contractor and personal vehicle parking is prohibited within the right-of-way unless designated on the plans, or approved by the Engineer.

7. Construction traffic signs shall be measured by the following sizes and descriptions:

Panel Size A	0.01 to 9.00 sq. ft. (including Type 1 and Type 2 barricades).
Panel Size B	9.01 to 16.00 sq. ft.
Panel Size C	Greater than 16 sq. ft.

   Construction traffic sign (special), sq. ft., may be used for some project specific information signs.

   For detailed dimensions of signs with sign code numbers, see "Standard Highway Signs" and the "Colorado Supplement" thereto. Sign layouts for other signs will be furnished in the plans, transmitted to the Engineer after award, or may be available upon request.

   W20-5 warning signs shall be furnished with exchangeable plaques reading "Right", "Left", "Center", "Right 2", etc. at no additional cost.

8. All warning and regulatory signs shall be posted on both sides of the roadway on divided highways, multi-lane ramps, one-way streets, and as directed by the Engineer, except where only one shoulder is closed (ex: Case 11 on Sheet 7).

9. Additional traffic control devices addressing flagging, speed reduction, etc. will be necessary for set-up and take-down of most case applications; daily work site access; and pavement marking removal and installation operations.

10. Based on sight distance and other considerations, the final locations of signs are subject to approval of the Engineer.

11. If construction related traffic congestion backs up beyond the installed advance sign sequence, additional advance signing shall be placed beyond the congestion.

12. All sign material shall be sound and durable to the degree necessary for maintaining effective and neat appearing traffic controls, and:

    a. Sign panels may be fabricated from plywood, steel, aluminum, or other suitable material.
    b. Reflective sheeting shall conform to ASTMD4956. The type shall be as described in the standard specifications and/or as shown on the plans.
    c. Symbols and legends shall be of good workmanship (uneven or hand lettering will not be accepted).
    d. Portable or temporary mounting shall not be constructed or weighted by any method or material that makes them hazardous to traffic.
    e. Certain post sizes and shapes require a "Break-Away" device. See the applicable standard plan. Other post designs or systems require the submittal of an FHWA eligibility letter of acceptance to the Engineer, and must be approved by the Engineer prior to their use.

13. All construction sign placement shall be in accordance with Standard Plan "Typical Ground Sign Placement" unless otherwise approved.

    Signs approved to be mounted on portable supports, or appropriate signs mounted on barricades, may be at lower heights, but the bottom of the signs shall not be less than one foot above the pavement elevation.

14. Signs mounted on the median of divided highways where median barrier is in place may be mounted on the barrier with a saddle type bracket. If the bracket allows the sign panel to be turned parallel to the roadway, the sign may remain in place when not applicable, but laying the sign panel down in a horizontal position is not permitted.

15. Traffic cones shall be at least 28 inches in height. However, the minimum size shall be 36 inches when they are used on freeways and expressways, or during nighttime working hours. They should also be 36 inches when used on other high speed roadways (45 mph or more) with an ADT of 6,000 or more.

16. Type 1 barricades shall not be used on freeways, expressways, or other high speed roadways (55 mph or more).

17. When two-way traffic is placed on one roadway of a normally divided highway, opposing traffic shall be separated either with concrete barrier (temporary), or with channelizing devices approved for this application, throughout the length of two-way operation. The transition zones shall have concrete barrier (temporary). The barrier shall be tied to an existing structure or guard rail, flared or extended, to meet clear zone requirements, or fitted with an impact attenuation device.

18. Channelizing device spacing, in feet, shall be as follows:
    a. For tapers and transitions, spacing equals the numerical value of the speed limit. (e.g. 45 mph = 45 feet)

    b. For tangents along the buffer space or work area, spacing may not be greater than two times the speed limit. (e.g. 50 mph = 50 feet to 100 feet maximum)

19. For details on barricades, concrete barrier (temporary), vertical panels, and flashing beacon (portable), see the applicable standard plans.

20. Flagger station shall comprise of either a flagger or an automated flagger assistance device (AFAD). See the most recent CDOT Standard Specifications for Road and Bridge Construction for additional guidance regarding AFAD.

21. Flagging operations shall not override visible regulatory signing or traffic signals, even when traffic signals have been disabled or set to flash mode. Only a uniformed police officer may direct traffic in a signalized intersection. Flagging is not permitted on interstates unless approved by the Region Traffic Engineer.

22. Flood lights shall be used to illuminate flagger stations during the hours of darkness unless otherwise approved. A typical light should provide the following: a fully directional swivel mount quartz light source (500 watt minimum), self-supporting stand with variable light height from a minimum of eight feet above the roadway, and a power source. It shall illuminate the station area and a flagger escape path, but shall not present any glare to traffic.

23. For temporary pavement markings and control points for installing those pavement markings for undivided roadways that are being constructed under traffic, full compliance center line, lane line, and edge line temporary markings shall be in place at the end of each work day in accordance with the most recent CDOT Standard Specifications for Road and Bridge Construction.

    For additional pavement marking details, see Standard Plan S-627-1 "Pavement Markings".

24. Buffer space is optional. Need must be determined on a project or site specific basis as directed by the Engineer. When a buffer space is used, dimensions and/or devices used are to be incorporated in the traffic control plan (TCP) or the contractor's method of handling traffic (MHT).

25. Additional VMS signage should be considered at least a mile in advance of the signing shown in the detail for any lane closures on interstate and other high speed facilities especially when the level of service is significantly reduced as a result of construction. The legends should be changed to advise motorists of upcoming traffic conditions and to alert them of upcoming lane usage.

    Additional advance warning signage is encouraged in all cases where traffic volumes and speeds are high and/or where there are infrequent exits. Additional signage is also encouraged in locations where drivers' line of sight to advance warning signs is obstructed.

26. When arrow boards are used to close multiple lanes, a separate arrow board shall be used for each closed lane.

    If arrow boards are used for shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-wayroadway, use the arrow boards only in the caution mode.

27. Raised pavement markers may be used to supplement temporary striping during non-snow periods. Their use is encouraged on higher speed facilities when traffic is being diverted from its usual course.

28. The typical cases depicted in this standard reflect the minimum requirements, unless as otherwise directed by the project plans and specifications, and/or the Project Engineer.

29. A significant project is defined as one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts at a location for three or more consecutive days with either intermittent or continuous lane closures.

30. Project information signage may be installed if specified in Project Special Provision 626 - Public Information Services.

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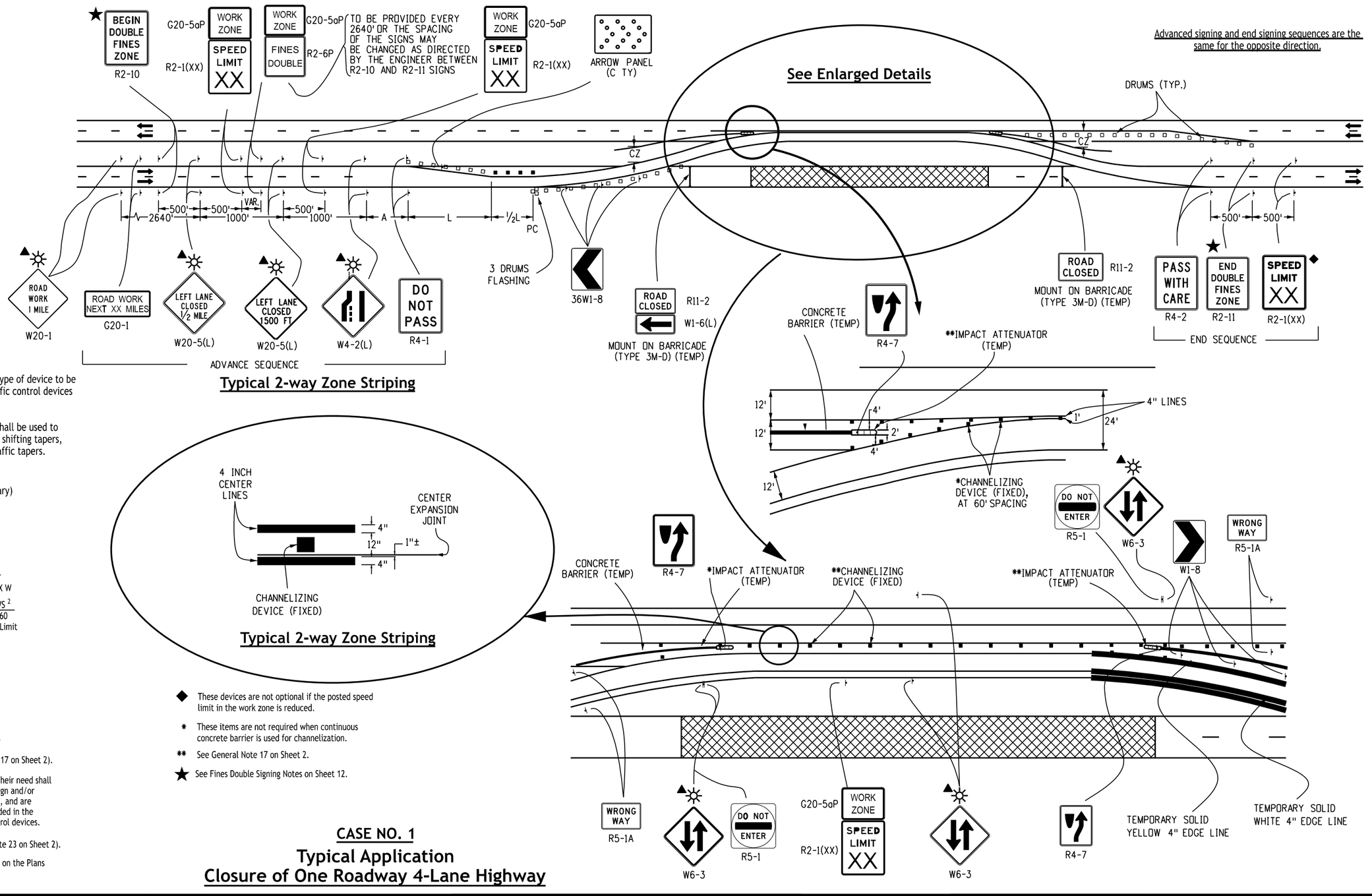
Standard Plan No.

S-630-1

Standard Sheet No. 2 of 26

Project Sheet Number:



Typical 2-way Zone Striping

Typical 2-way Zone Striping

Legend

- ▪ Channelizing Device: for type of device to be used, see schedule of traffic control devices included in the plans.
- ▫ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length of Taper
  - Speed 45 Mph or More: $L = S \times W$
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
- Advance Warning Flashing or Sequencing Arrow Panel
- A = 100' (Urban Low Speed), 350' (Urban High Speed), 500' (Rural), 1,000' (Expressway / Freeway)
- CZ Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- VAR. Buffer Space (see General Note 23 on Sheet 2).
- Impact Attenuator as Detailed on the Plans
- Flashing Beacon

◆ These devices are not optional if the posted speed limit in the work zone is reduced.

* These items are not required when continuous concrete barrier is used for channelization.

** See General Note 17 on Sheet 2.

★ See Fines Double Signing Notes on Sheet 12.

CASE NO. 1

Typical Application
Closure of One Roadway 4-Lane Highway

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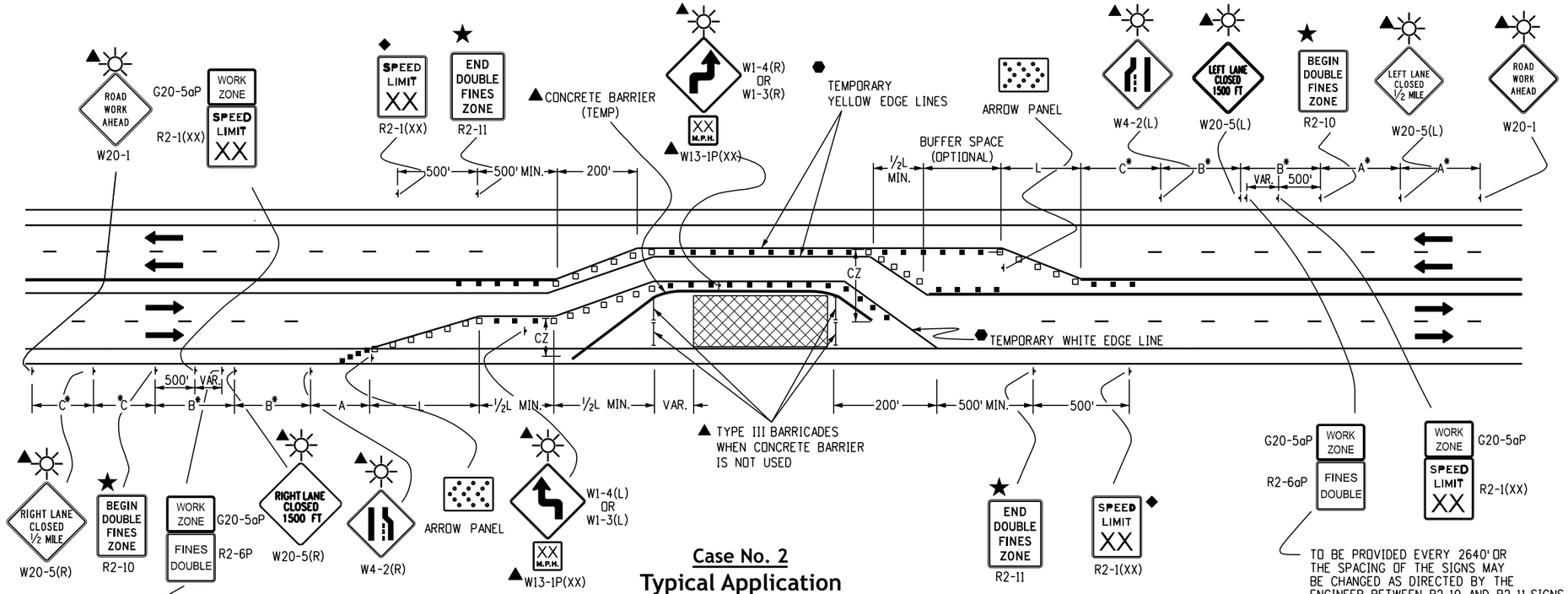
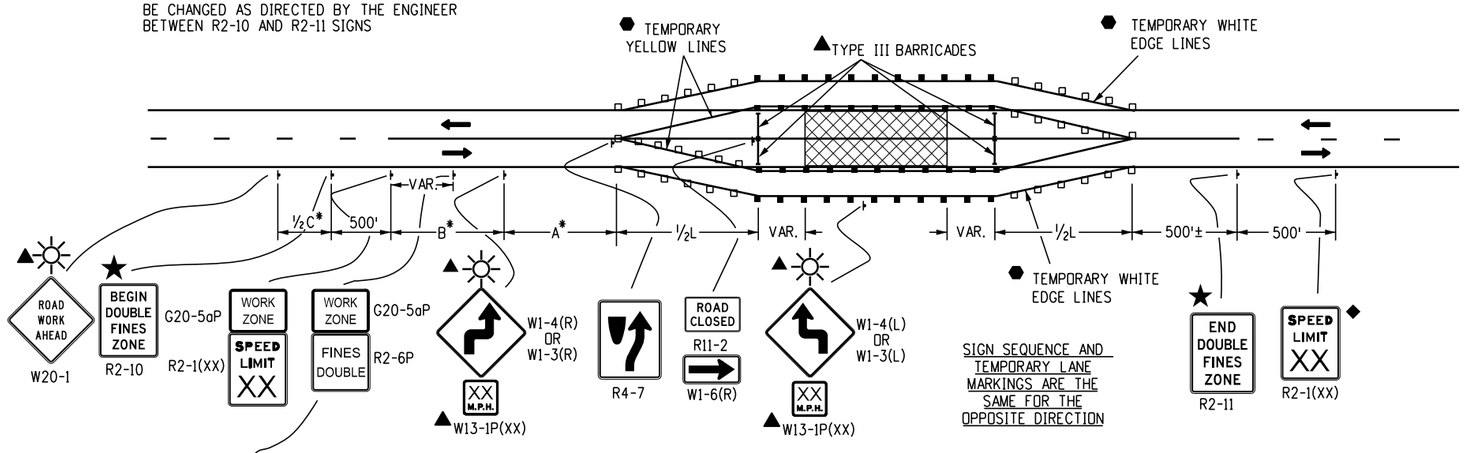


Case No. 2
Typical Application
Closure of Half of Four-Lane Undivided Highway



Case No. 3
Typical Application
Road Closure, Use of Adjacent Shoulders

Legend

- ■ Channelizing Device: for type of device to be used, see schedule of traffic control devices included in the plans.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one way, two-way traffic tapers.
- Type III Barricade
- Flagger Station
- Direction of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length of Taper
  - Speed 45 Mph Or More: L = S X W
  - Speed 40 Mph Or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel.
- A = 100' (Urban Low Speed), 350' (Urban High Speed), 500' (Rural), 1,000' (Expressway / Freeway)
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- VAR. — Buffer Space (See General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Flashing Beacon
- ★ See Fines Double Signing Notes on Sheet 12.

* Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

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Sheet Revisions	
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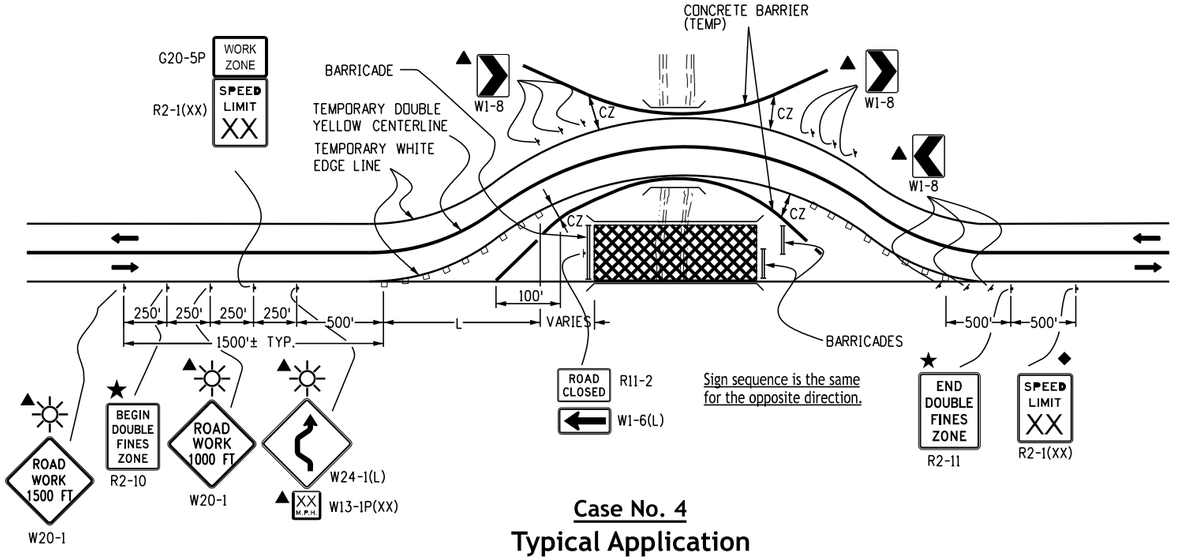
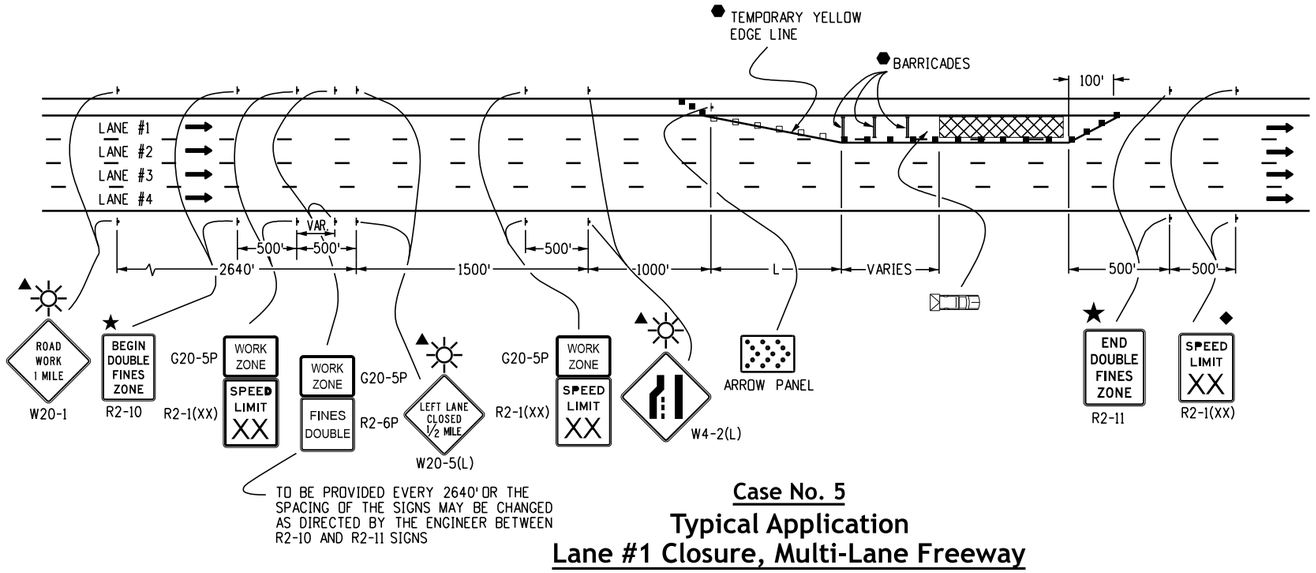


Case No. 4
Typical Application
Road Closure, Bypass Detour Provided



Case No. 5
Typical Application
Lane #1 Closure, Multi-Lane Freeway

Legend

- Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

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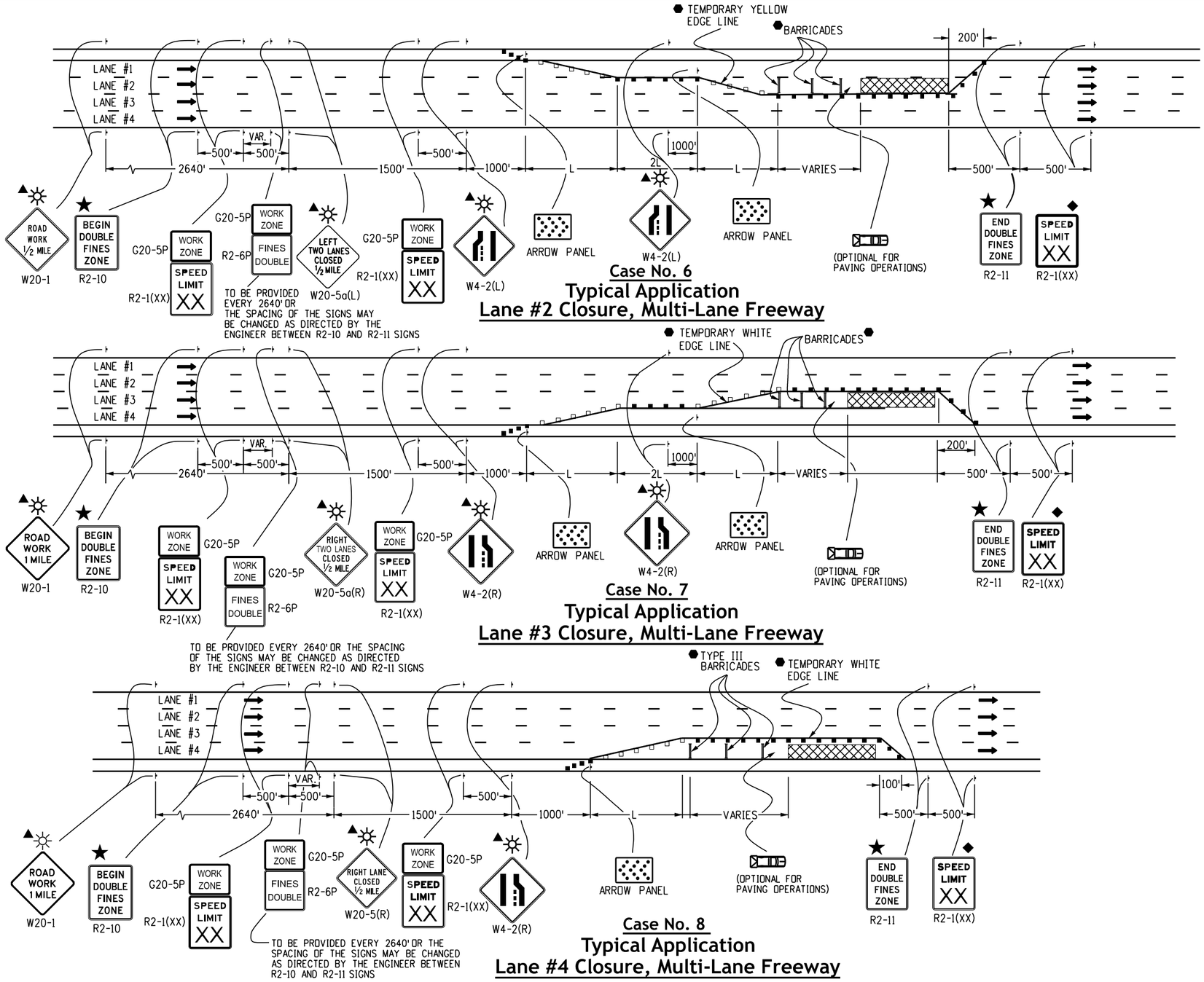

Case No. 6
Typical Application
Lane #2 Closure, Multi-Lane Freeway

Case No. 7
Typical Application
Lane #3 Closure, Multi-Lane Freeway

Case No. 8
Typical Application
Lane #4 Closure, Multi-Lane Freeway

Legend

- ■ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
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- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

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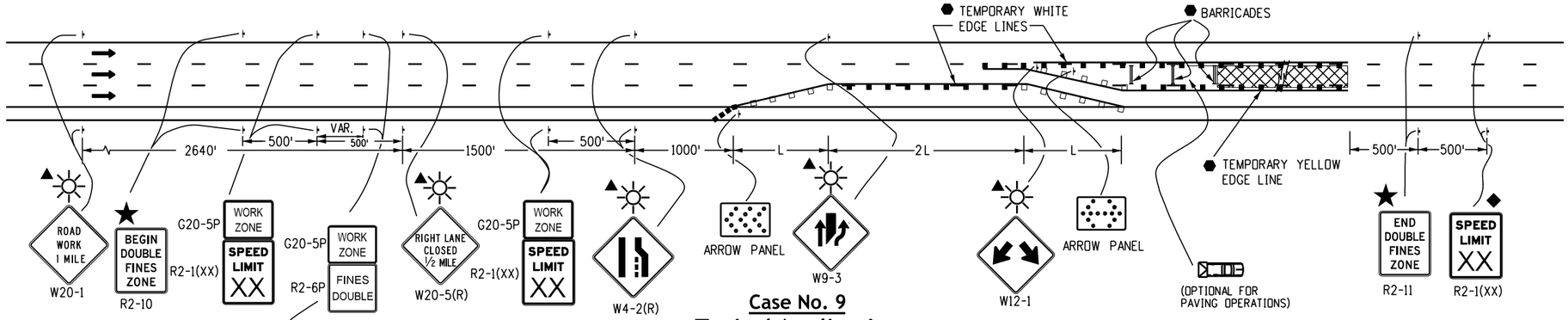
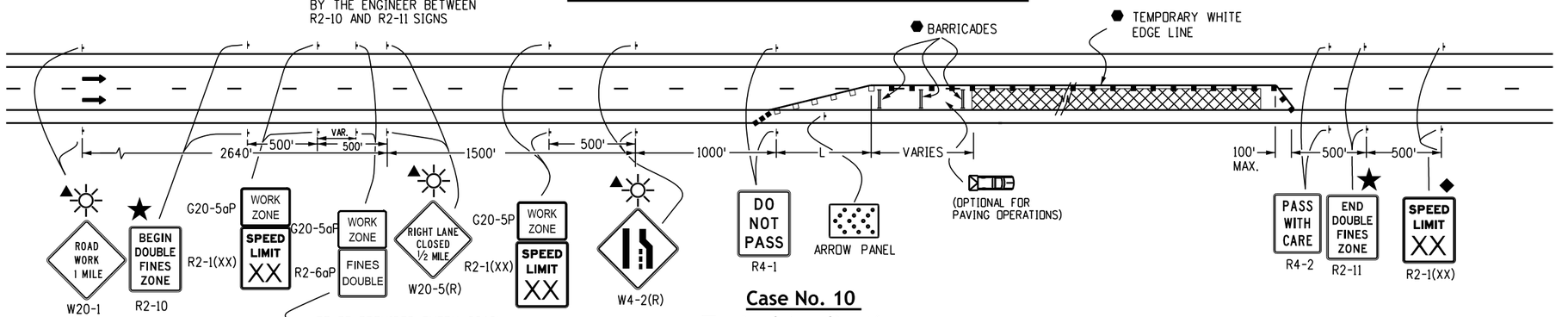
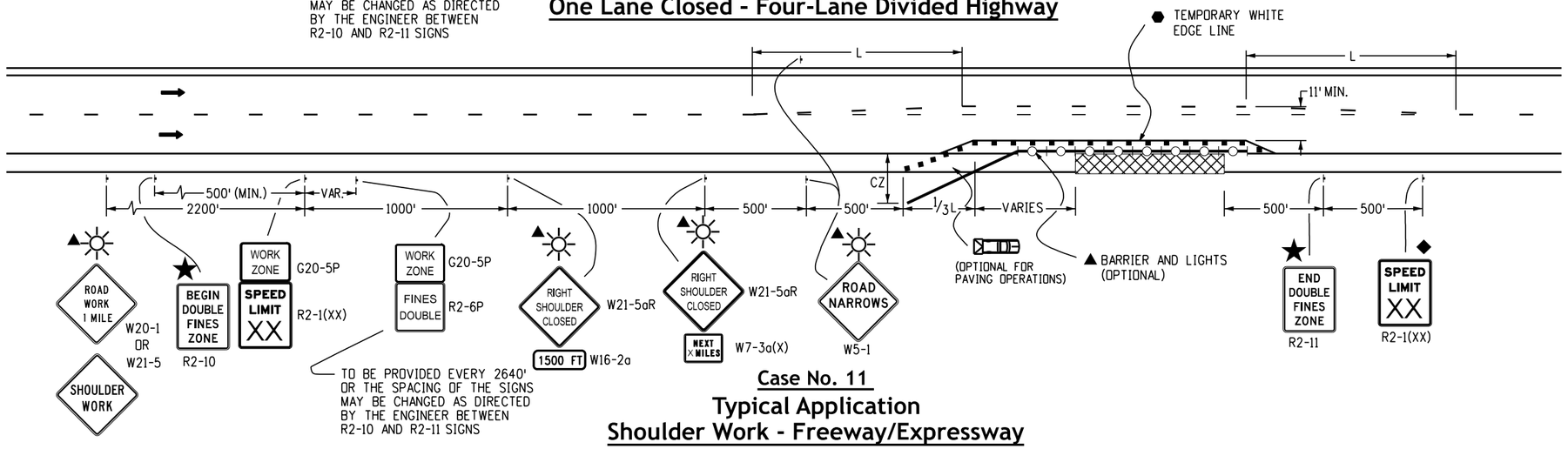


Case No. 9
Typical Application
Center Lane Closure - Multi-Lane Freeway



Case No. 10
Typical Application
One Lane Closed - Four-Lane Divided Highway



Case No. 11
Typical Application
Shoulder Work - Freeway/Expressway

Legend

- Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.
- Concrete Barrier (Temporary) with Lights

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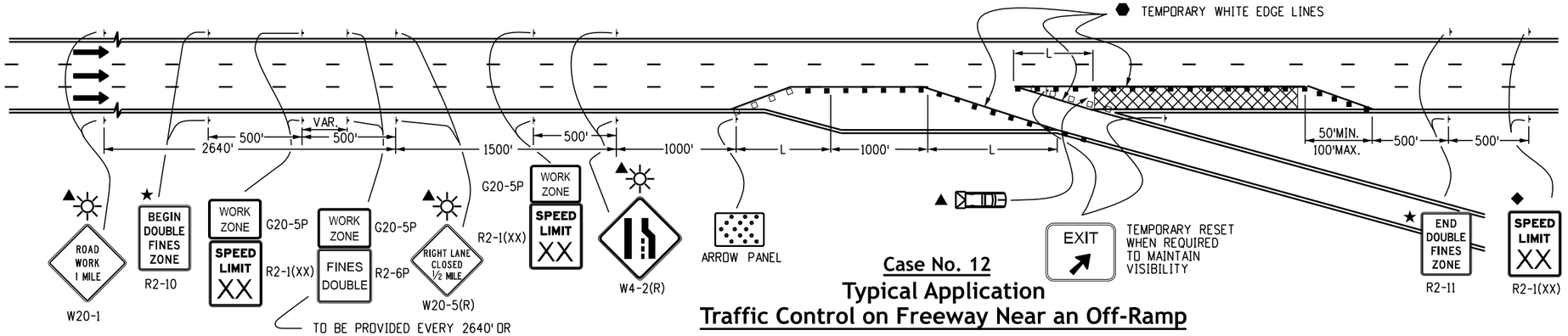
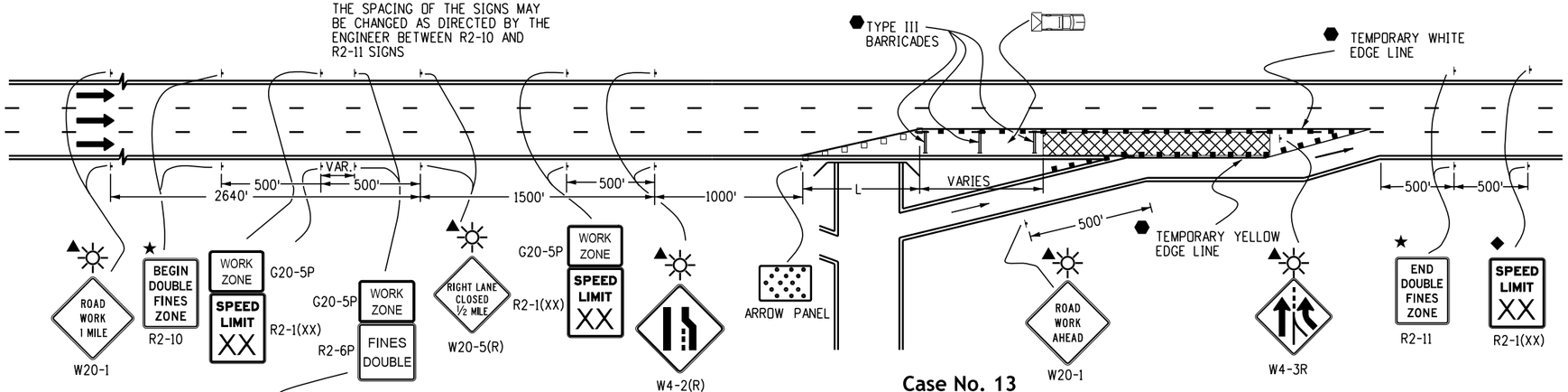
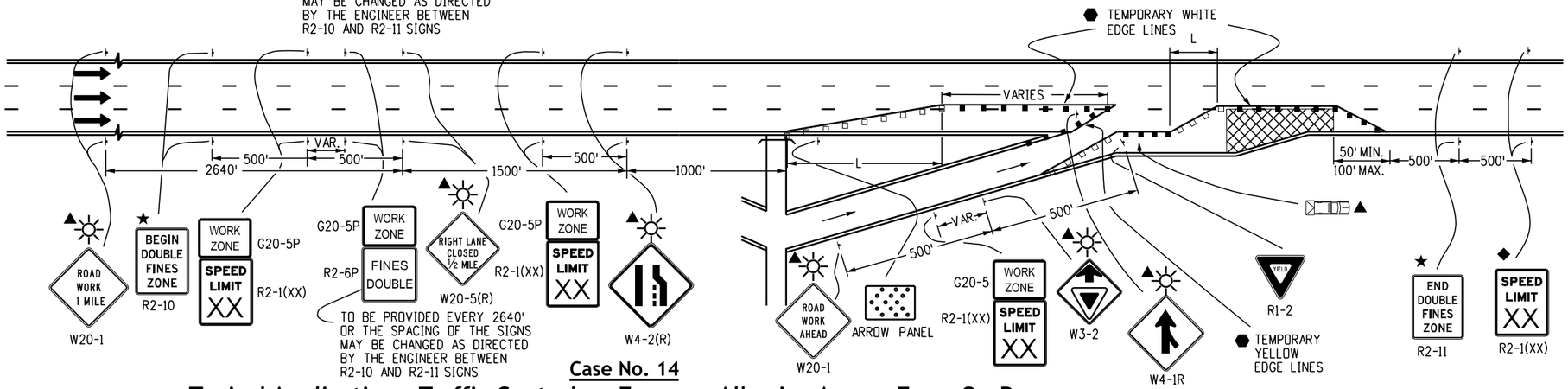


Case No. 12
Typical Application
Traffic Control on Freeway Near an Off-Ramp



Case No. 13
Typical Application - Traffic Control On Freeway Before An On-Ramp



Case No. 14
Typical Application - Traffic Control on Freeway Allowing Access From On-Ramp

Legend

- ■ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

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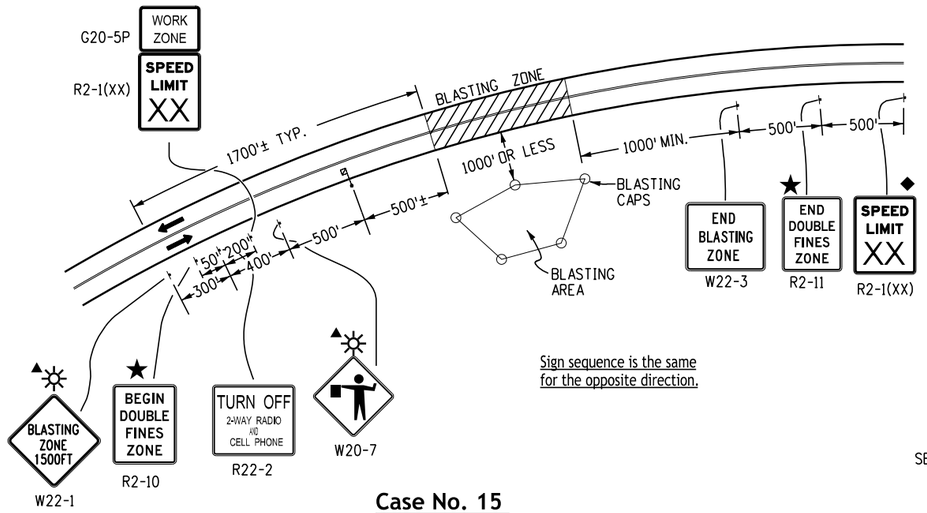
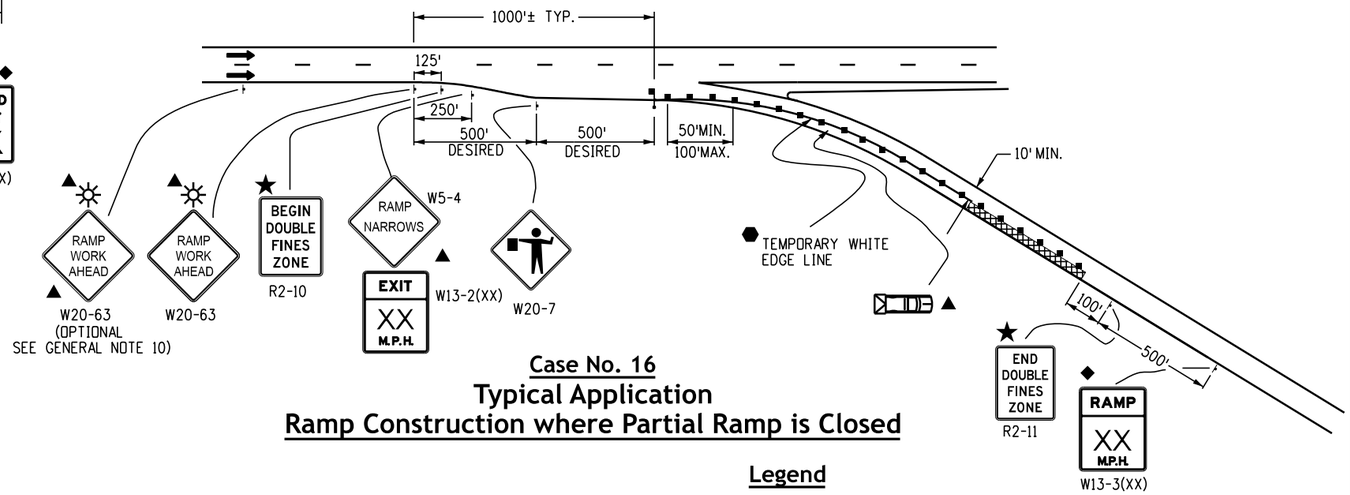
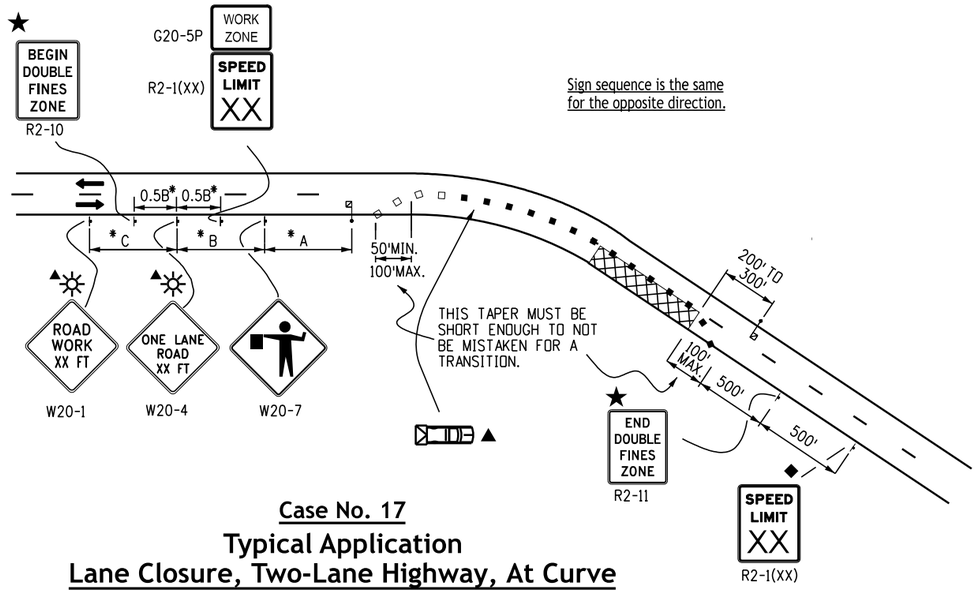


Sign sequence is the same for the opposite direction.

Case No. 15
Typical Application
Blasting Zone



Case No. 16
Typical Application
Ramp Construction where Partial Ramp is Closed



Sign sequence is the same for the opposite direction.

Case No. 17
Typical Application
Lane Closure, Two-Lane Highway, At Curve

Legend

- ▪ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- ▫ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Mobile Attenuator
- ★ See Fines Double Signing Notes on Sheet 12.
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- ⬢ Required when work occupies the location for more than 3 days.
- Flashing Beacon

✳ Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information	
Creation Date: 07/04/12	
Created By: KEN	
Last Modification Date: 07/01/26	
Last Modified By: NRR	
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

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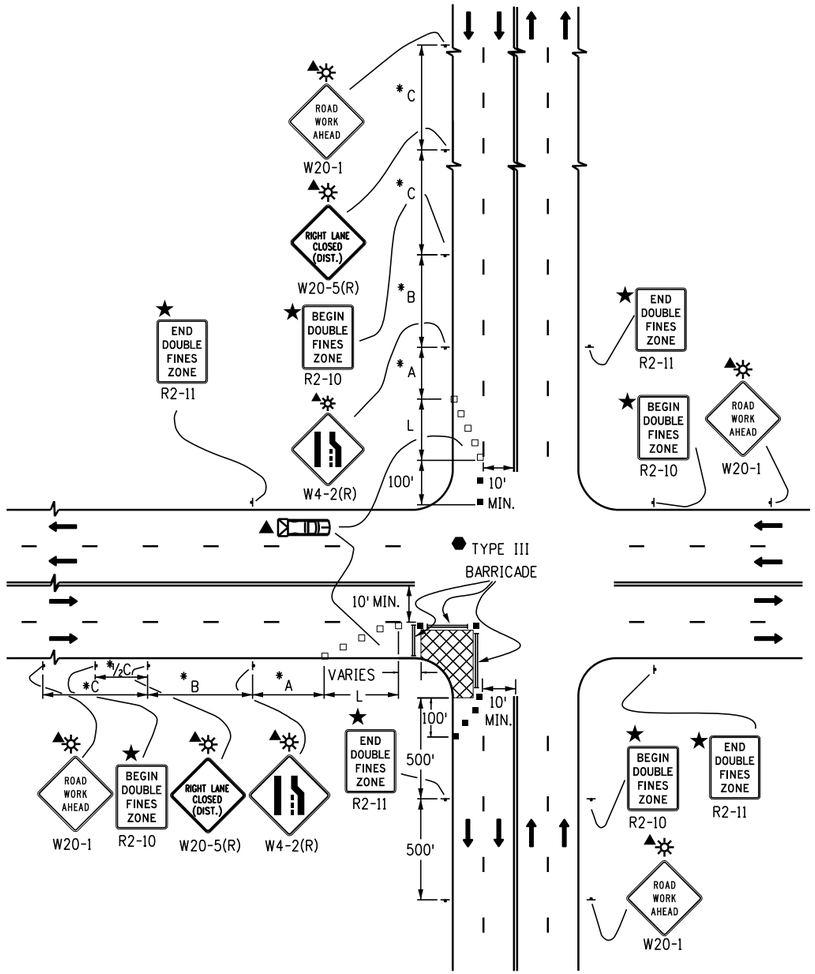
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

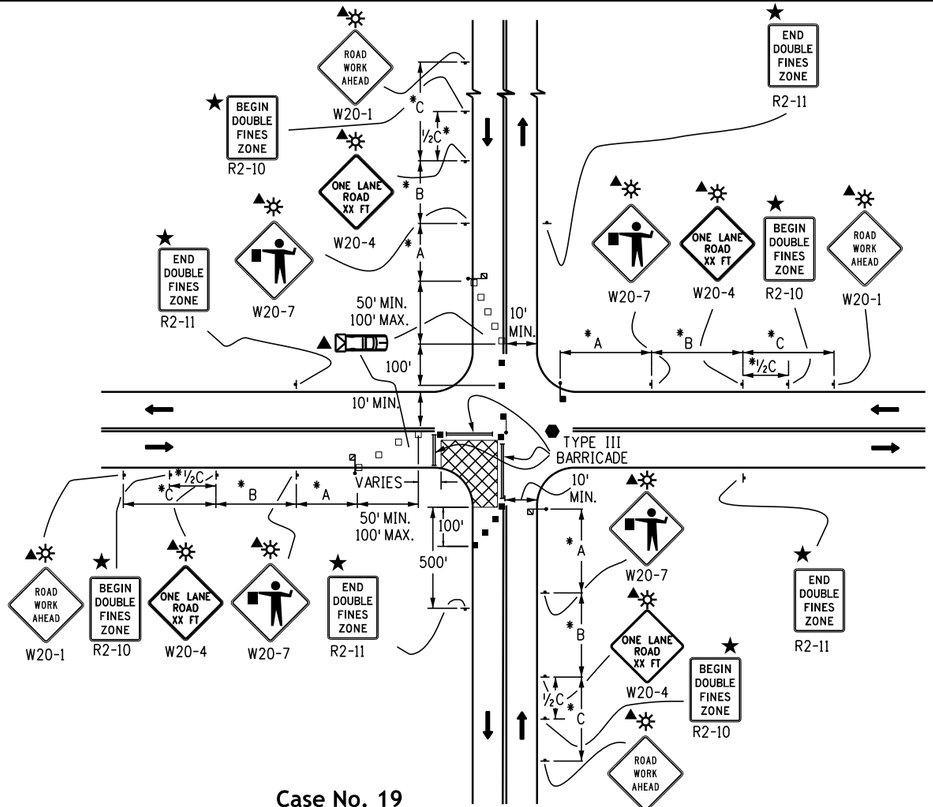
Standard Plan No.
S-630-1
Standard Sheet No. 9 of 26
Project Sheet Number:



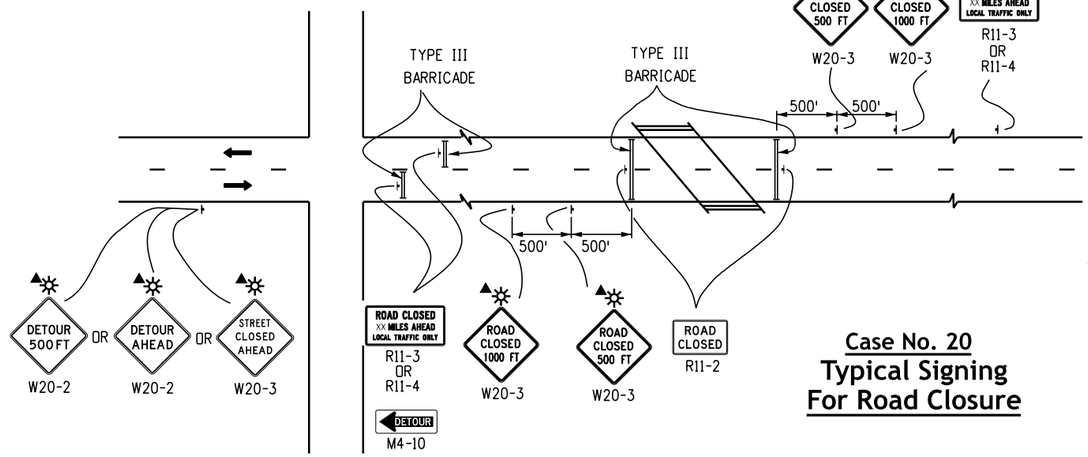
Case No. 18
Typical Application
Traffic Control Around a Work Area
Near an Intersection, One Lane Closed

Notes:

1. Sign placement shown on cases 18 and 19 typifies rural applications. Urban applications require the signs to be placed within one, or perhaps two, blocks.
2. Truck-mounted attenuators (TMA) optional for all cases as determined by the Engineer.



Case No. 19
Typical Application of Traffic Control
Around a Work Area Near an Intersection



Case No. 20
Typical Signing
For Road Closure

Legend

- ■ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: $L = S \times W$
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

* Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information		Sheet Revisions	
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Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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Standard Plan No.
S-630-1
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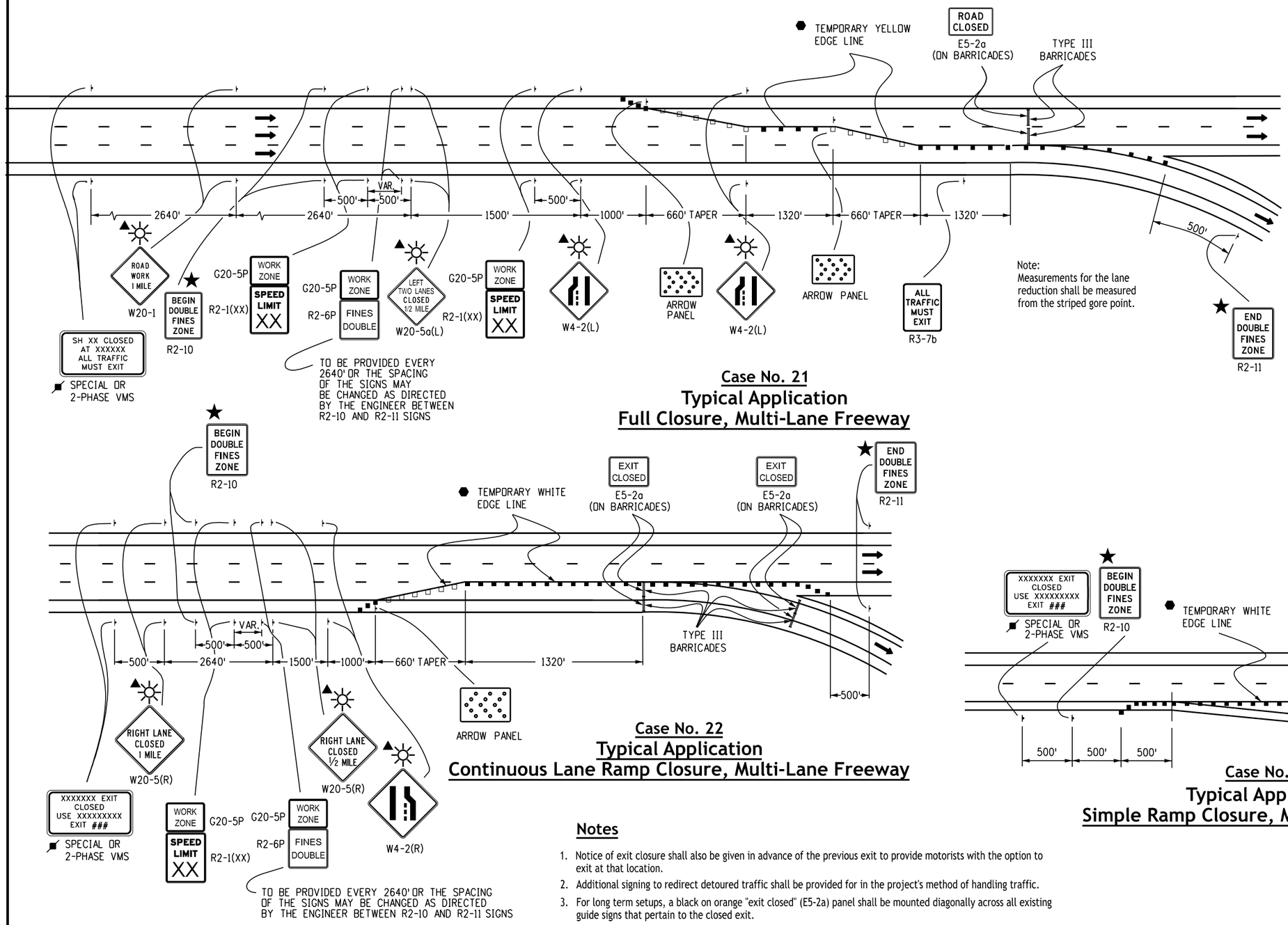
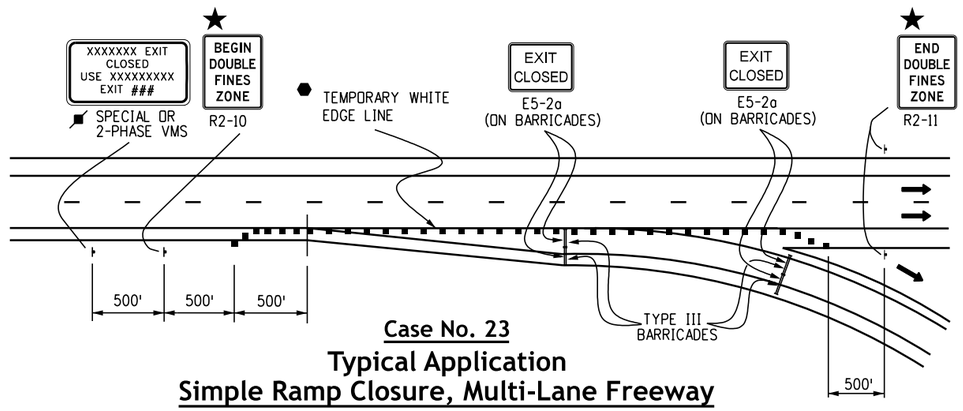
Project Sheet Number:



Case No. 21
Typical Application
Full Closure, Multi-Lane Freeway

Case No. 22
Typical Application
Continuous Lane Ramp Closure, Multi-Lane Freeway



Case No. 23
Typical Application
Simple Ramp Closure, Multi-Lane Freeway

Notes

1. Notice of exit closure shall also be given in advance of the previous exit to provide motorists with the option to exit at that location.
2. Additional signing to redirect detoured traffic shall be provided for in the project's method of handling traffic.
3. For long term setups, a black on orange "exit closed" (E5-2a) panel shall be mounted diagonally across all existing guide signs that pertain to the closed exit.

Legend

- Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Direction Of Travel
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- Required when work occupies the location for more than 3 days.
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

Note:
Measurements for the lane reduction shall be measured from the striped gore point.

Computer File Information	Sheet Revisions	
Creation Date: 07/04/12	Date:	Comments
Created By: KEN		
Last Modification Date: 07/01/26		
Last Modified By: NRR		
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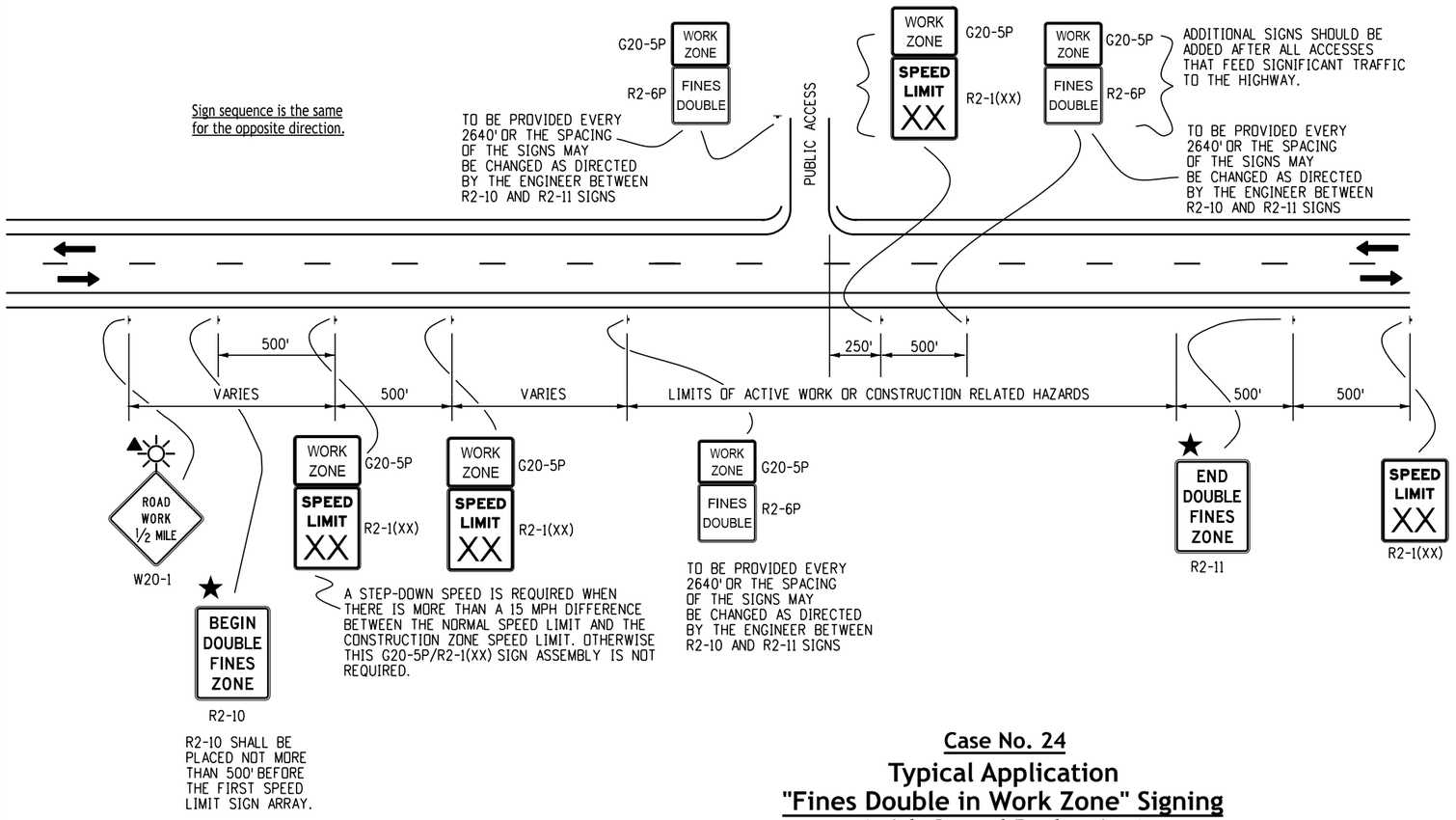

Case No. 24
Typical Application
"Fines Double in Work Zone" Signing
(with Speed Reduction)

Legend

- Direction Of Travel
- These devices are optional. Their need will be determined by the designer based on detour design and/or scope of the construction activity, and are required when they are included in the plans.
- Flashing Beacon
- Fines Double Signing Notes, See Below

Fines Double Signing Notes:

1. Signs shall not be placed sooner than four hours before work is to begin and shall be removed as soon as work activities are concluded, unless potential hazards introduced as a result of the work are still present at the end of the work day. FF signs are left in place after work activities, the Traffic Control Supervisor shall make an entry in their daily diary that justifies their use.

   "Hazards" include but are not limited to:
   - Edge Drop Offs
   - Equipment, Workers or Non-Shielded Objects in the Clear Zone
   - Rough Pavement
   - Major Change in Alignment
   - Reduced Shoulder Width
   - Temporary Guard Rail or Barrier
   - Lane Closure

2. Signs shall only be placed where workers are present in the roadway or clear zone or are at risk, or where there are hazards in the travelway, shoulders or clear zone.

3. Signs should be placed so that motorists immediately associate the signs with presentwork activities. If the zone of work activity moves, the signs should be moved accordingly.

4. Signing shown is required to enforce double fines in a work zone. Additional signing shall be in accordance with that normally required for the particular work zone. Placement of "Double Fines" signing may be adjusted as needed to provide a minimum 250' spacing between other signing required for the specific work zone setup.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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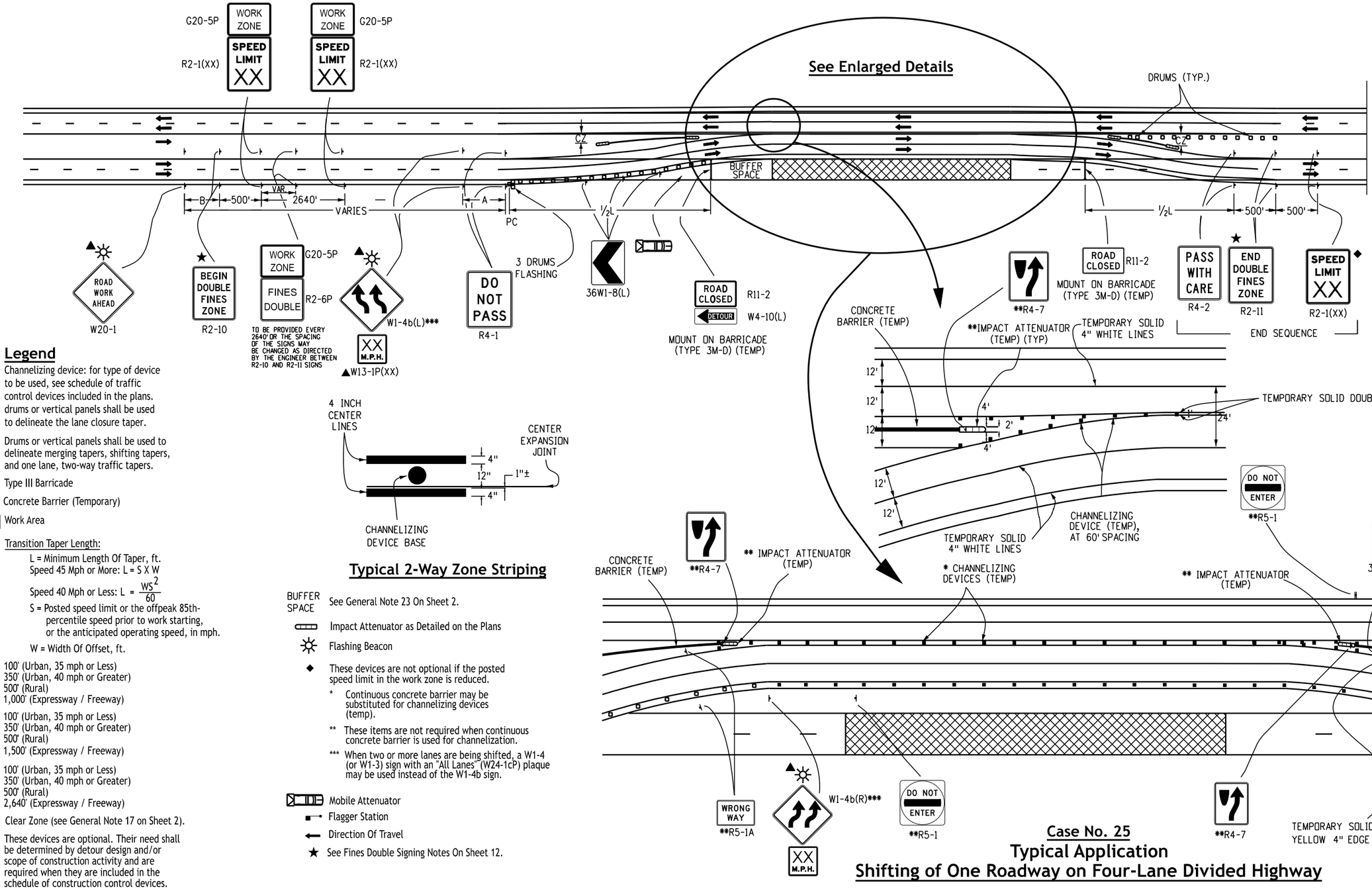
Standard Plan No.
S-630-1
Standard Sheet No. 12 of 26
Project Sheet Number:



Legend

- ▪ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans. drums or vertical panels shall be used to delineate the lane closure taper.
- ▫ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Work Area
- L Transition Taper Length:
  - L = Minimum Length Of Taper, ft.
  - Speed 45 Mph or More: $L = S \times W$
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Posted speed limit or the offpeak 85th-percentile speed prior to work starting, or the anticipated operating speed, in mph.
  - W = Width Of Offset, ft.
- A = 100' (Urban, 35 mph or Less) 350' (Urban, 40 mph or Greater) 500' (Rural) 1,000' (Expressway / Freeway)
- B = 100' (Urban, 35 mph or Less) 350' (Urban, 40 mph or Greater) 500' (Rural) 1,500' (Expressway / Freeway)
- C = 100' (Urban, 35 mph or Less) 350' (Urban, 40 mph or Greater) 500' (Rural) 2,640' (Expressway / Freeway)
- CZ Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of construction control devices.

Typical 2-Way Zone Striping

BUFFER SPACE See General Note 23 On Sheet 2.

- Impact Attenuator as Detailed on the Plans
- Flashing Beacon
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- * Continuous concrete barrier may be substituted for channelizing devices (temp).
- ** These items are not required when continuous concrete barrier is used for channelization.
- *** When two or more lanes are being shifted, a W1-4 (or W1-3) sign with an "All Lanes" (W24-1cP) plaque may be used instead of the W1-4b sign.
- Mobile Attenuator
- Flagger Station
- Direction Of Travel
- ★ See Fines Double Signing Notes On Sheet 12.

Case No. 25
Typical Application
Shifting of One Roadway on Four-Lane Divided Highway

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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Standard Plan No.
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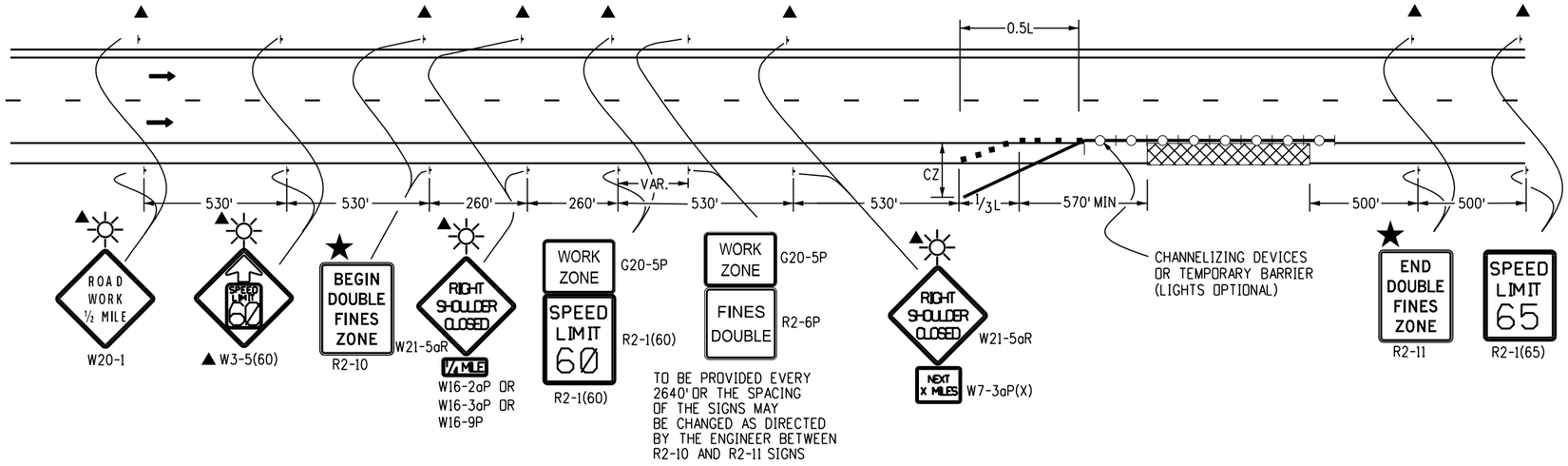
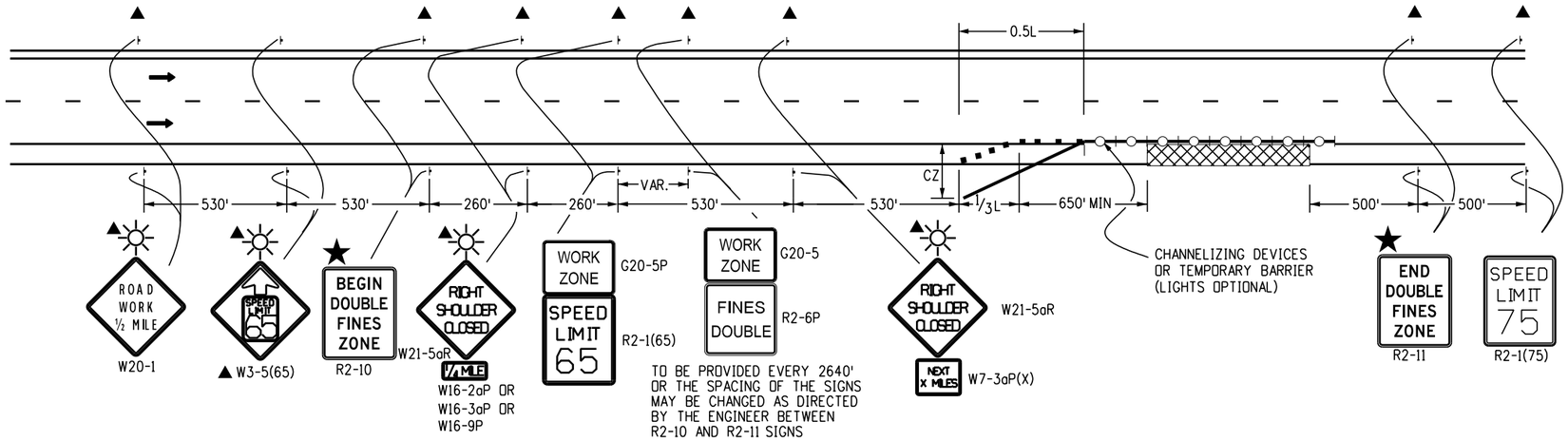


CASE NO. 26
Typical Application
Shoulder Work - Freeway/Expressway w/ 65 MPH Speed Limit

When Hazards (Workers, Equipment, Or Temporary Barrier) are Within 8 Feet of Travel Way



Case No. 27
TYPICAL APPLICATION
Shoulder Work - Freeway/Expressway w/ 75 MPH Speed Limit

When Hazards (Workers, Equipment, Or Temporary Barrier) are Within 10 Feet of Travel Way

Legend

- ■ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- ⬢ Required when work occupies the location for more than 3 days.
- Mobile Attenuator
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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Issued by the Traffic Safety & Engineering Services: July 01, 2026

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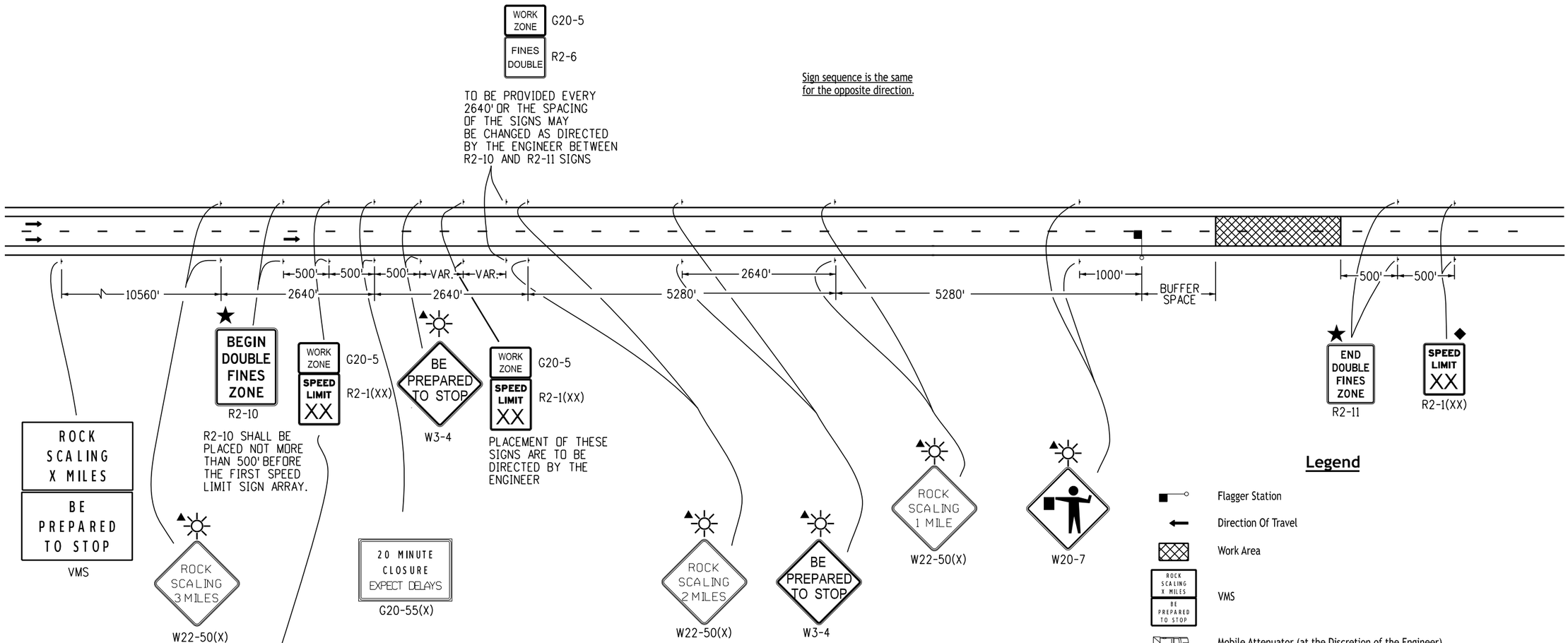
Project Sheet Number:



Legend

- Flagger Station
- Direction Of Travel
- Work Area
- VMS (ROCK SCALING X MILES / BE PREPARED TO STOP)
- Mobile Attenuator (at the Discretion of the Engineer)
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- BUFFER SPACE — See General Note 23 on Sheet 2.
- Flashing Beacon
- ★ See Fines Double Signing Notes on Sheet 12.

Case No. 28

Typical Application

Rock Scaling - Road Closure, Four-Lane Divided Highway

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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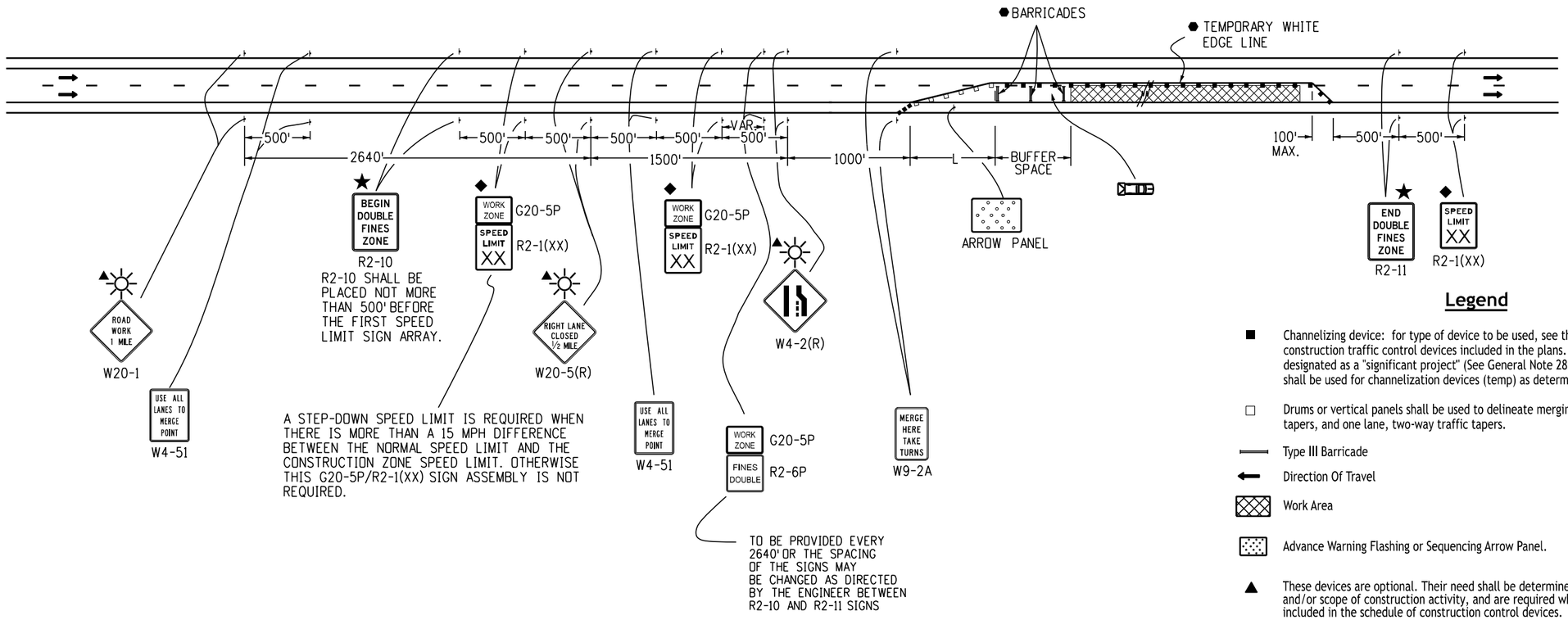
Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 15 of 26
Project Sheet Number:



Case No. 29

Typical Application
Late/Zipper Merging - One Lane Closed, 4-Lane Divided Highway

Legend

- ■ Channelizing device: for type of device to be used, see the schedule of construction traffic control devices included in the plans. If project is designated as a "significant project" (See General Note 28), concrete barrier shall be used for channelization devices (temp) as determined by the Engineer.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Direction Of Travel
- Work Area
- Advance Warning Flashing or Sequencing Arrow Panel.
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- Flashing Beacon
- ⬣ Required when work occupies the location for more than 3 days.
- ★ See Fines Double Signing Notes on Sheet 12.
- Mobile Attenuator
- BUFFER SPACE See General Note 23 on Sheet 2.
- L Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L

Computer File Information		Sheet Revisions	
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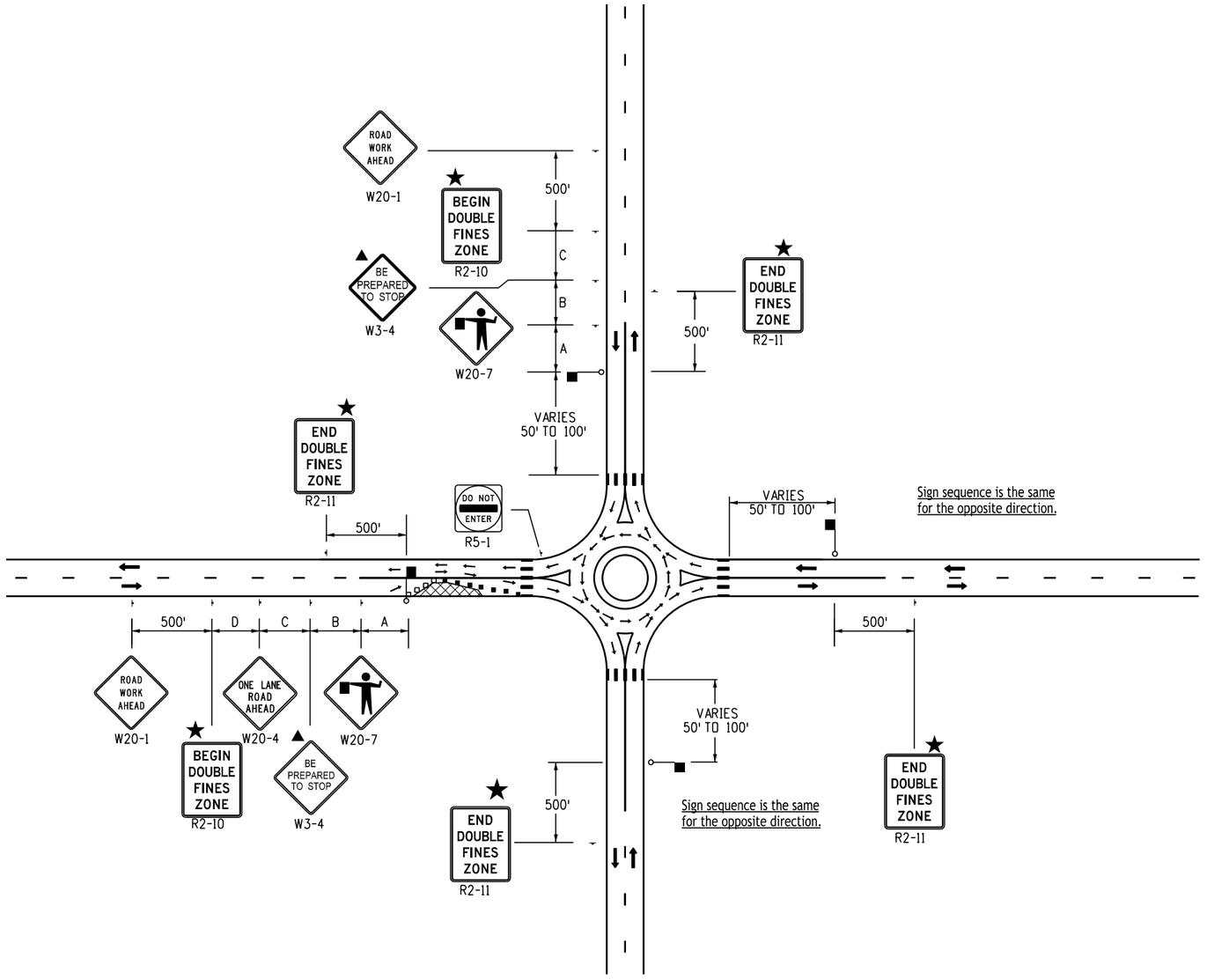
Standard Plan No.
S-630-1
Standard Sheet No. 16 of 26
Project Sheet Number:



Case No. 30
Typical Application
Roundabout - Partial Closure Near One-Lane Roundabout

Legend

- Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Concrete Barrier (Temporary)
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- Advance Warning Flashing or Sequencing Arrow Panel
- CZ — Clear Zone (see General Note 17 on Sheet 2).
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- BUFFER SPACE — Buffer Space (see General Note 23 on Sheet 2).
- ⬣ Required when work occupies the location for more than 3 days.
- Flashing Beacon
- ★ See Fines Double Signing Notes On Sheet 12.

Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

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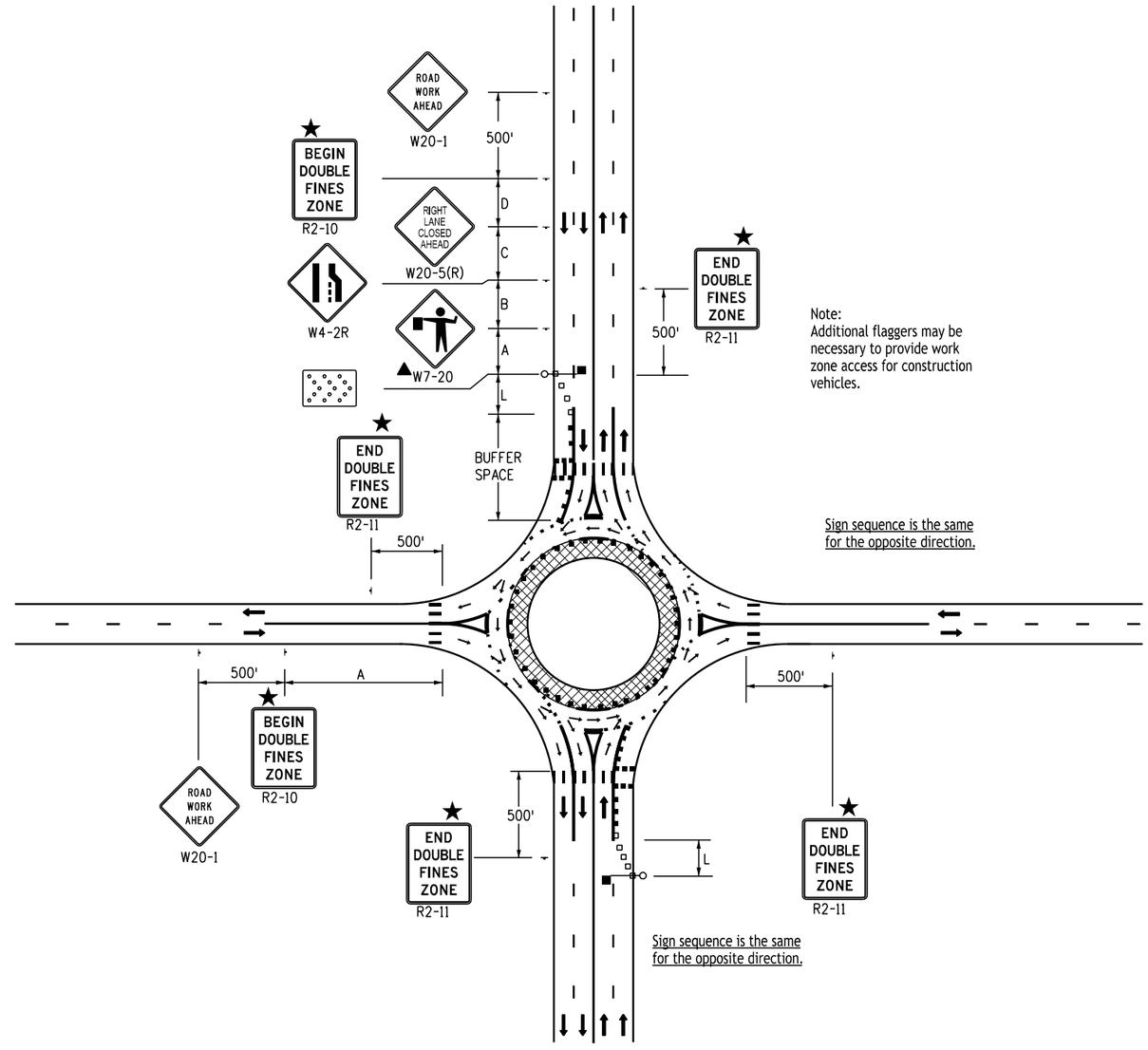
Standard Plan No.
S-630-1
Standard Sheet No. 17 of 26
Project Sheet Number:



Note:
Additional flaggers may be necessary to provide work zone access for construction vehicles.

Sign sequence is the same for the opposite direction.

Sign sequence is the same for the opposite direction.

Case No. 31

Typical Application *

Roundabout - Inside Lane Closure for Two-Lane Roundabout

Legend

✳ A truck detour route may be necessary to divert trucks away from the roundabout circle. Also necessary is a street name and/or route number sign, informing motorists where they need to exit the roundabout circle to enter the desired street and/or route number.

■ Channelizing device: for type of device to be used, see the schedule of construction traffic control devices included in the plans. If project is designated as a "significant project" (see General Note 28), concrete barrier shall be used for channelization devices (temp) as determined by the Engineer.

□ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.

Type III Barricade

Direction Of Travel

Work Area

Advance Warning Flashing or Sequencing Arrow Panel.

▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.

◆ These devices are not optional if the posted speed limit in the work zone is reduced.

Flashing Beacon

⬢ Required when work occupies the location for more than 3 days.

★ See Fines Double Signing Notes on Sheet 12.

Mobile Attenuator

L Transition Taper Length:

L = Minimum Length Of Taper

Speed 45 Mph Or More: $L = S \times W$

Speed 40 Mph Or Less: $L = \frac{WS^2}{60}$

S = Numerical Value Of Speed Limit Or 85 Percentile Speed

W = Width Of Offset

Shoulder Taper = 1/3 L

BUFFER SPACE See General Note 23 on Sheet 2.

Flagger Station

Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information		Sheet Revisions	
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Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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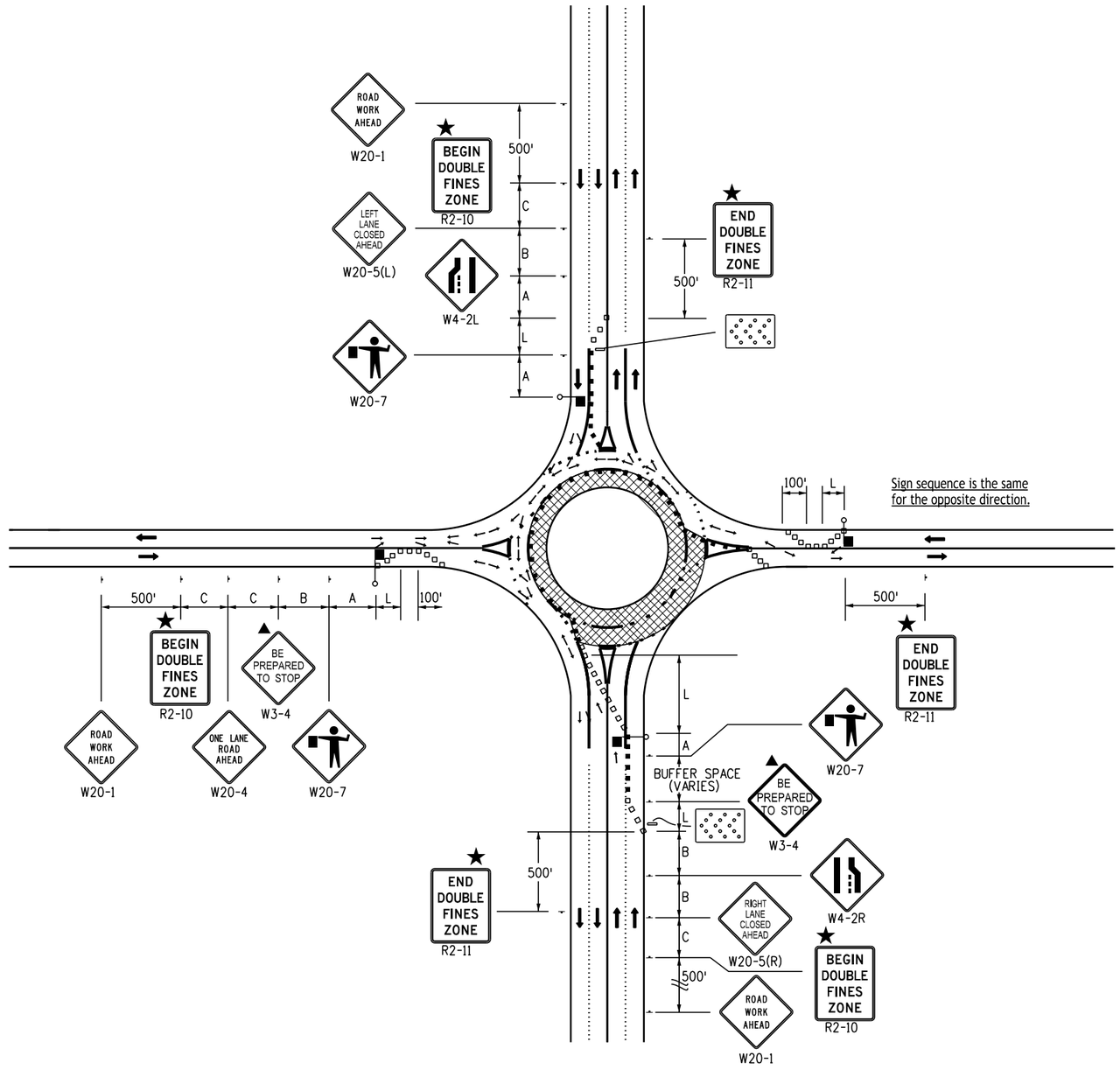
Standard Plan No.
S-630-1
Standard Sheet No. 18 of 26
Project Sheet Number:



Legend

- ✳ A truck detour route may be necessary to divert trucks away from the roundabout circle. Also necessary is a street name and/or route number sign, informing motorists where they need to exit the roundabout circle to enter the desired street and/or route number.
- ■ Channelizing device: for type of device to be used, see the schedule of construction traffic control devices included in the plans. If project is designated as a "significant project" (see General Note 28), concrete barrier shall be used for channelization devices (temp) as determined by the Engineer.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Direction Of Travel
- Work Area
- Advance Warning Flashing or Sequencing Arrow Panel.
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- Flashing Beacon
- ⬣ Required when work occupies the location for more than 3 days.
- ★ See Fines Double Signing Notes on Sheet 12.
- Mobile Attenuator
- L Transition Taper Length:

  L = Minimum Length Of Taper

  Speed 45 Mph Or More: $L = S \times W$

  Speed 40 Mph Or Less: $L = \frac{WS^2}{60}$

  S = Numerical Value Of Speed Limit Or 85 Percentile Speed

  W = Width Of Offset

  Shoulder Taper = 1/3 L
- BUFFER SPACE See General Note 23 on Sheet 2.
- Flagger Station

Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Case No. 32

Typical Application *

Roundabout - Outside Lane Closure for Two-Lane Roundabouts

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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Traffic Safety & Engineering Services
2829 West Howard Place
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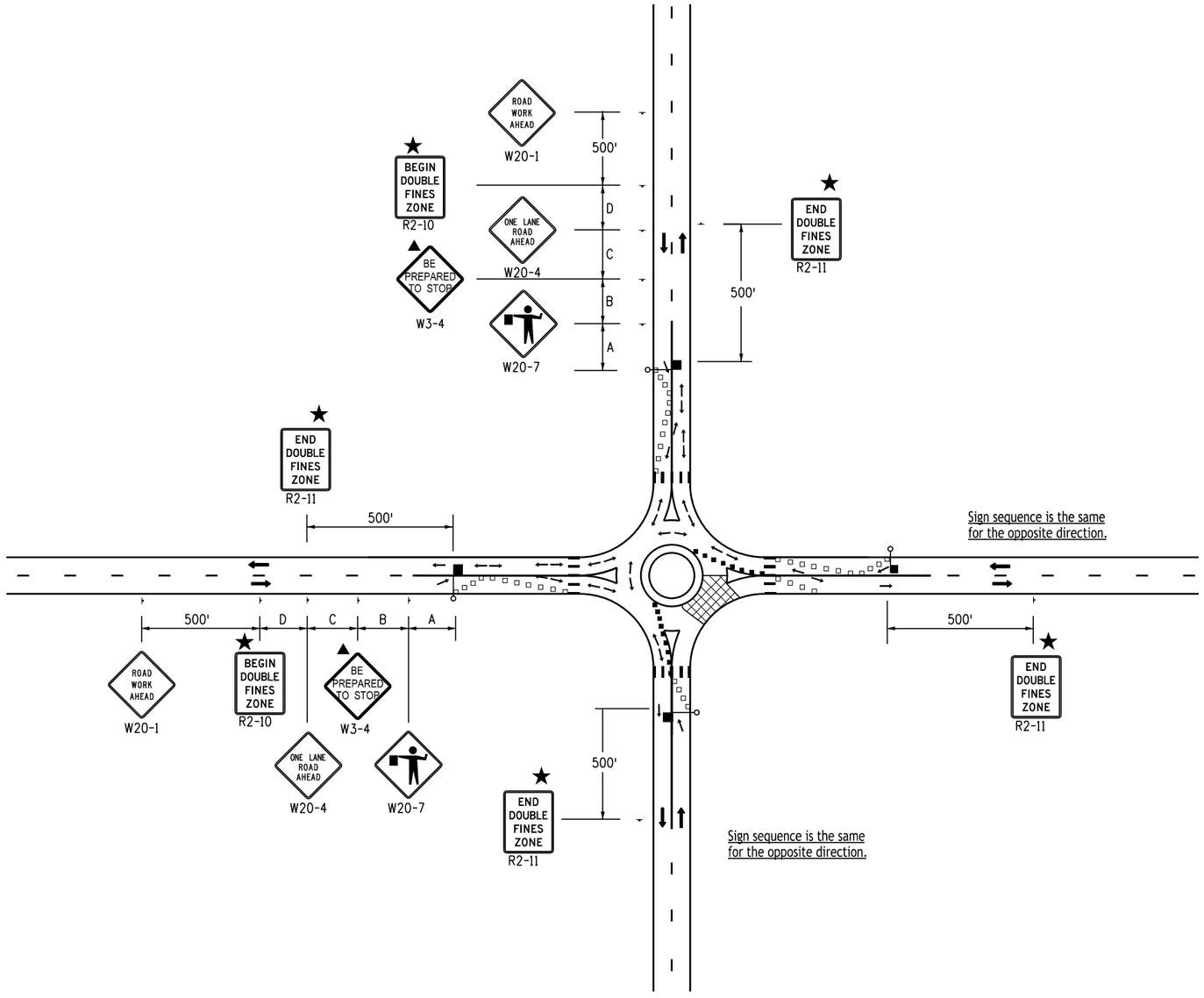
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 19 of 26
Project Sheet Number:



Legend

- ✳ A truck detour route may be necessary to divert trucks away from the roundabout circle. Also necessary is a street name and/or route number sign, informing motorists where they need to exit the roundabout circle to enter the desired street and/or route number.
- ■ Channelizing device: for type of device to be used, see the schedule of construction traffic control devices included in the plans. If project is designated as a "significant project" (see General Note 28), concrete barrier shall be used for channelization devices (temp) as determined by the Engineer.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Type III Barricade
- Direction Of Travel
- Work Area
- Advance Warning Flashing or Sequencing Arrow Panel.
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity, and are required when they are included in the schedule of construction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- Flashing Beacon
- ⬢ Required when work occupies the location for more than 3 days.
- ★ See Fines Double Signing Notes on Sheet 12.
- Mobile Attenuator
- L Transition Taper Length:

  L = Minimum Length Of Taper

  Speed 45 Mph Or More: $L = S \times W$

  Speed 40 Mph Or Less: $L = \frac{WS^2}{60}$

  S = Numerical Value Of Speed Limit Or 85 Percentile Speed

  W = Width Of Offset

  Shoulder Taper = 1/3 L
- BUFFER SPACE See General Note 23 on Sheet 2.
- Flagger Station

Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

CASE NO. 33
Typical Application *
Roundabout - Partial Closure for One-Lane Roundabout

Computer File Information	
Creation Date: 07/04/12	
Created By: KEN	
Last Modification Date: 07/01/26	
Last Modified By: NRR	
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

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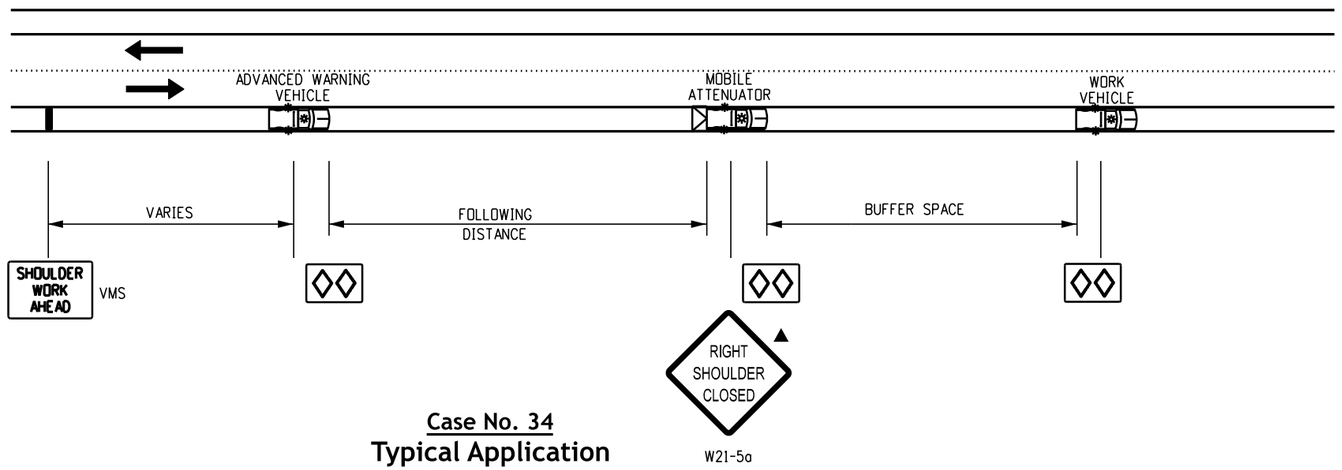
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 20 of 26
Project Sheet Number:

Legend

- Mobile attenuator vehicle, two 360-degree yellow flashing beacons, and yellow flashing vehicle lights or strobes.
- VMS — Variable Message Sign (VMS).
- Arrow Board
- ▲ When VMS is used, the "Right Shoulder Closed" (W21-5a) sign becomes optional.
- ● If tracking of the wet paint is anticipated, the use of cones or stationary "wet paint" signs shall be posted.
- ⬢ The variable separation distance between the "Cone Placement Vehicle" and "Cone Pickup Vehicle" shall be determined by the track drying time of the pavement marking material.
- ⬬ Optional

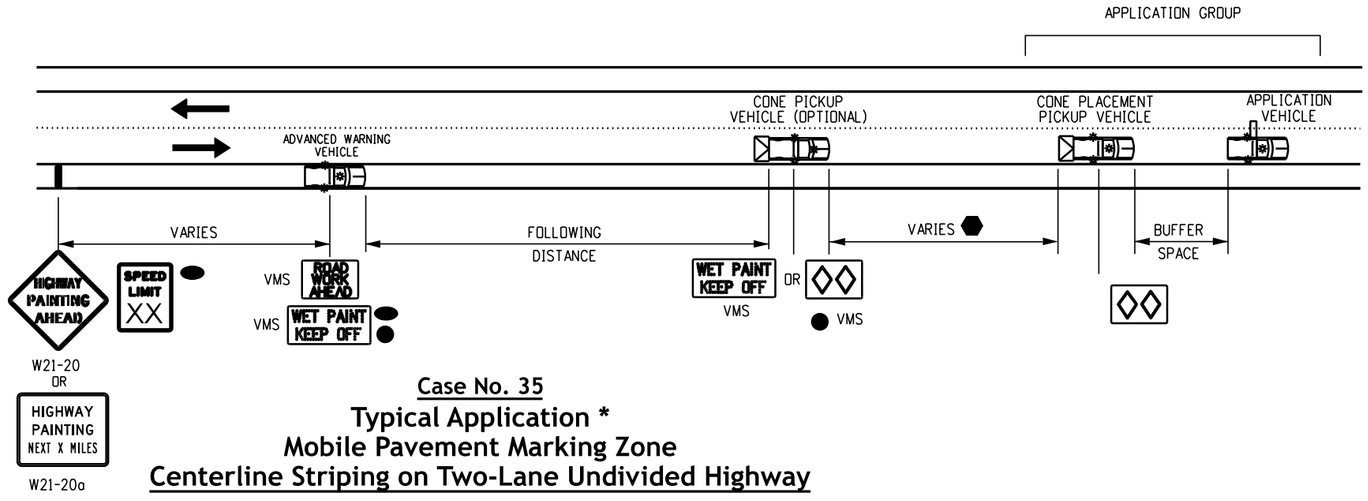


Case No. 34
Typical Application
Mobile Work Zone
Mobile Shoulder Closure on Two-Lane Undivided Highway

* Use Case 35 if shoulder in Case 34 is too narrow for group vehicle use.

Following Distance Chart for Warning and Mobile Attenuator (or Cone Pickup) Vehicle

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)	BUFFER SPACE (FEET)
0 - 30	250 - 550	100 - 120
35 - 40	325 - 700	100 - 120
45 - 50	600 - 900	120 - 140
55	750 - 1200	120 - 140
60	1000 - 1400	180 - 200



Case No. 35
Typical Application *
Mobile Pavement Marking Zone
Centerline Striping on Two-Lane Undivided Highway

* Use Case 35 if shoulder in Case 34 is too narrow for group vehicle use.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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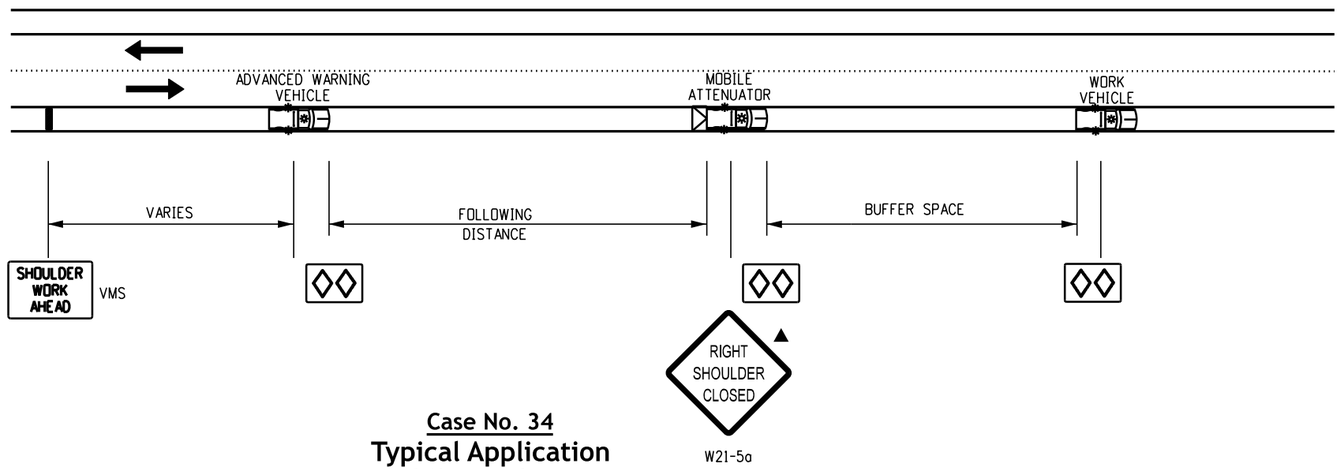
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 21 of 26
Project Sheet Number:

Legend

- Mobile attenuator vehicle, two 360-degree yellow flashing beacons, and yellow flashing vehicle lights or strobes.
- VMS — Variable Message Sign (VMS).
- Arrow Board
- ▲ When VMS is used, the "Right Shoulder Closed" (W21-5a) sign becomes optional.
- ● If tracking of the wet paint is anticipated, the use of cones or stationary "wet paint" signs shall be posted.
- ⬢ The variable separation distance between the "Cone Placement Vehicle" and "Cone Pickup Vehicle" shall be determined by the track drying time of the pavement marking material.
- ⬬ Optional

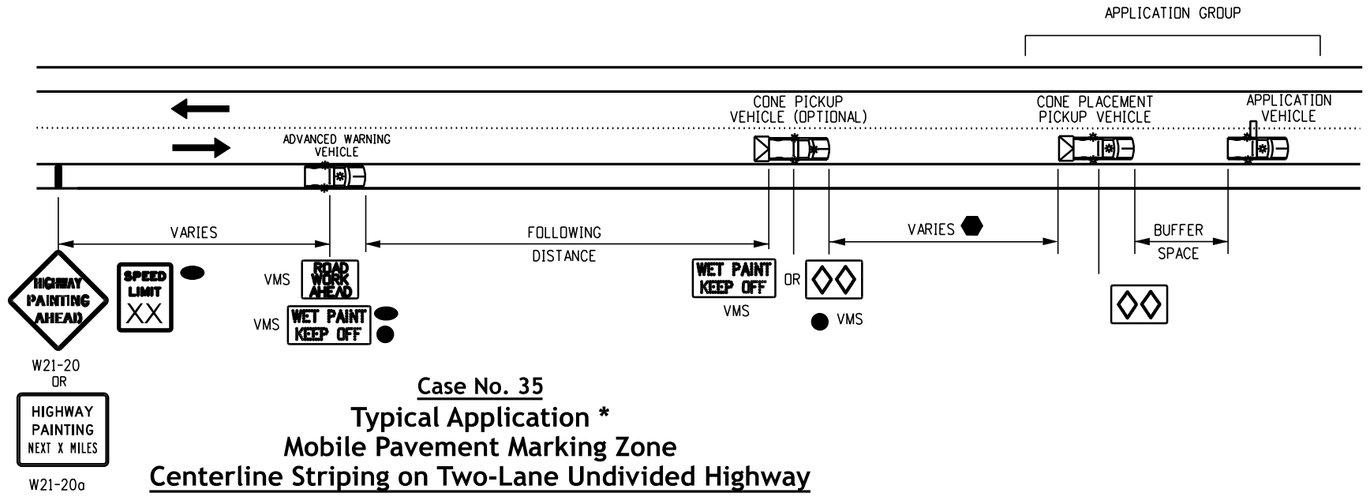


Case No. 34
Typical Application
Mobile Work Zone
Mobile Shoulder Closure on Two-Lane Undivided Highway

* Use Case 35 if shoulder in Case 34 is too narrow for group vehicle use.

Following Distance Chart for Warning and Mobile Attenuator (or Cone Pickup) Vehicle

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)	BUFFER SPACE (FEET)
0 - 30	250 - 550	100 - 120
35 - 40	325 - 700	100 - 120
45 - 50	600 - 900	120 - 140
55	750 - 1200	120 - 140
60	1000 - 1400	180 - 200



Case No. 35
Typical Application *
Mobile Pavement Marking Zone
Centerline Striping on Two-Lane Undivided Highway

* Use Case 35 if shoulder in Case 34 is too narrow for group vehicle use.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 21 of 26
Project Sheet Number:

Legend

Mobile attenuator truck, two 360-degree yellow flashing beacons, and yellow flashing vehicle lights or strobes.

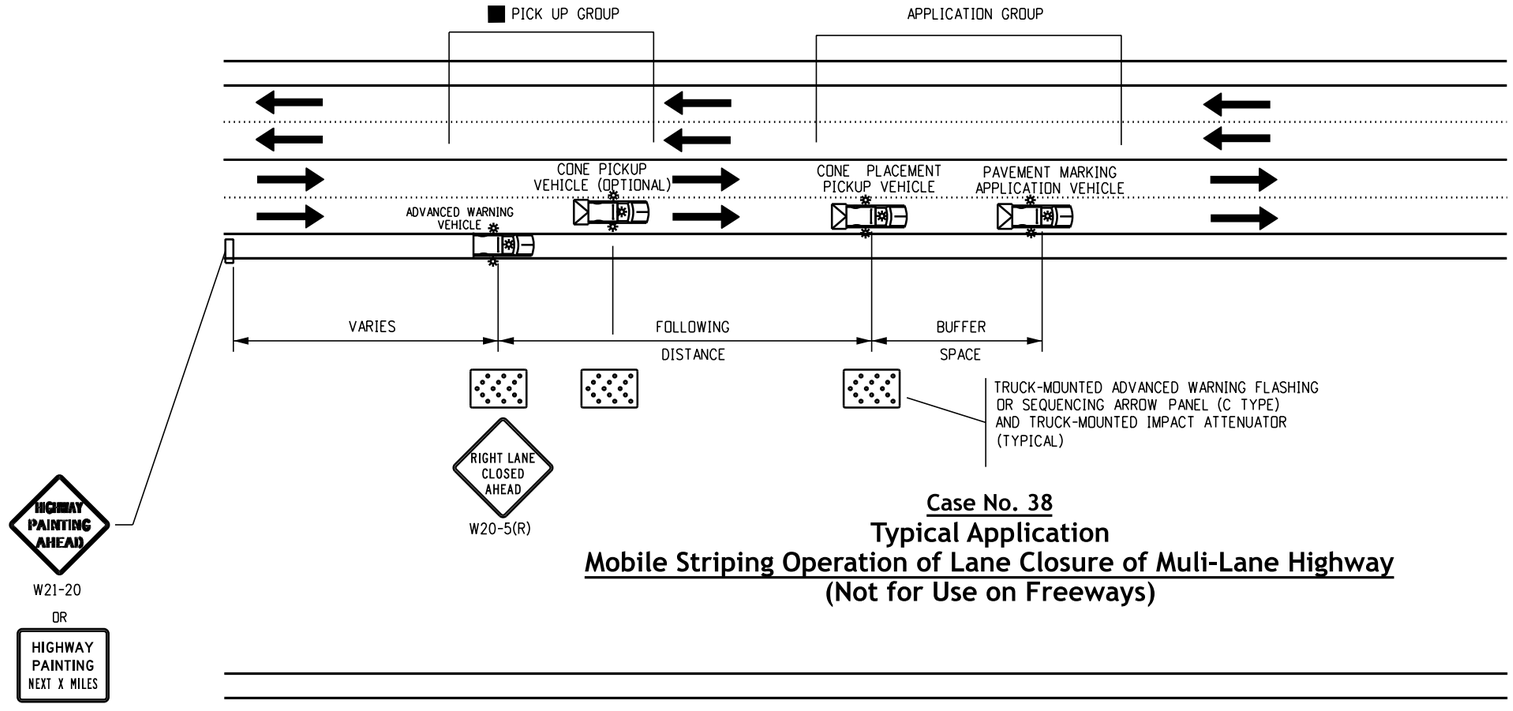
Advance Warning Flashing or Sequencing Arrow Panel.

▲ When the VMS is used, the "Right Lane Closed Ahead" W9-3(R/L) sign becomes optional.

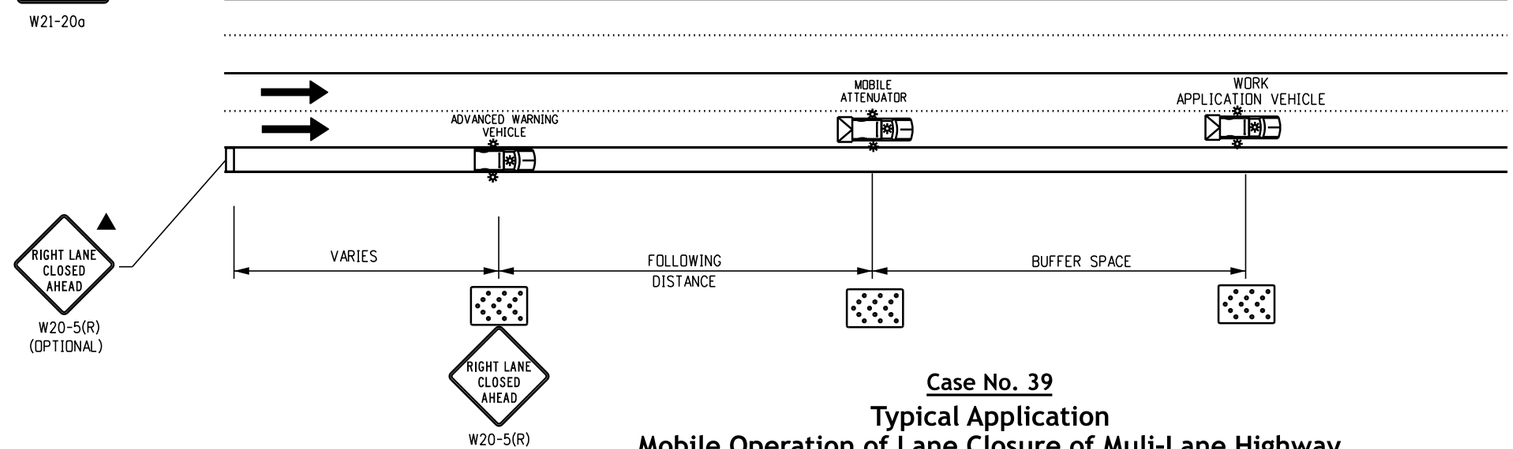
■ The "Cone Pick Up Vehicle" or "Warning Vehicle" may encroach into the traffic lane when the shoulder is too narrow to drive on.

Notes

1. In roadway where the aadt is 2,000 or less, a single work vehicle with appropriate warning devices on the vehicle may be used.
2. Radio communications between the workcrew and the moving blockade are required to adjust the blockade to increase or decrease the closure time. release traffic only after confirmation that all workers and their vehicles are clear of the roadway.
3. If applicable, all ramps and access between the moving blockade and work operation area shall be temporarily closed using traffic control equipment and personnel. Each ramp must remain closed until the crew doing the work gives the "All Clear" signal or until the front of the moving blockade passes the closed ramp(s).



Case No. 38
Typical Application
Mobile Striping Operation of Lane Closure of Muli-Lane Highway
(Not for Use on Freeways)



Case No. 39
Typical Application
Mobile Operation of Lane Closure of Muli-Lane Highway

Following Distance Chart for Warning Vehicle and Signing Vehicles

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)	BUFFER SPACE (FEET)
0 - 30	250 - 550	100 - 120
35 - 40	325 - 700	100 - 120
45 - 50	600 - 900	120 - 140
55	750 - 1200	120 - 140
60	1000 - 1400	180 - 200

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN			
Last Modification Date: 07/01/26			
Last Modified By: NRR			
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English			

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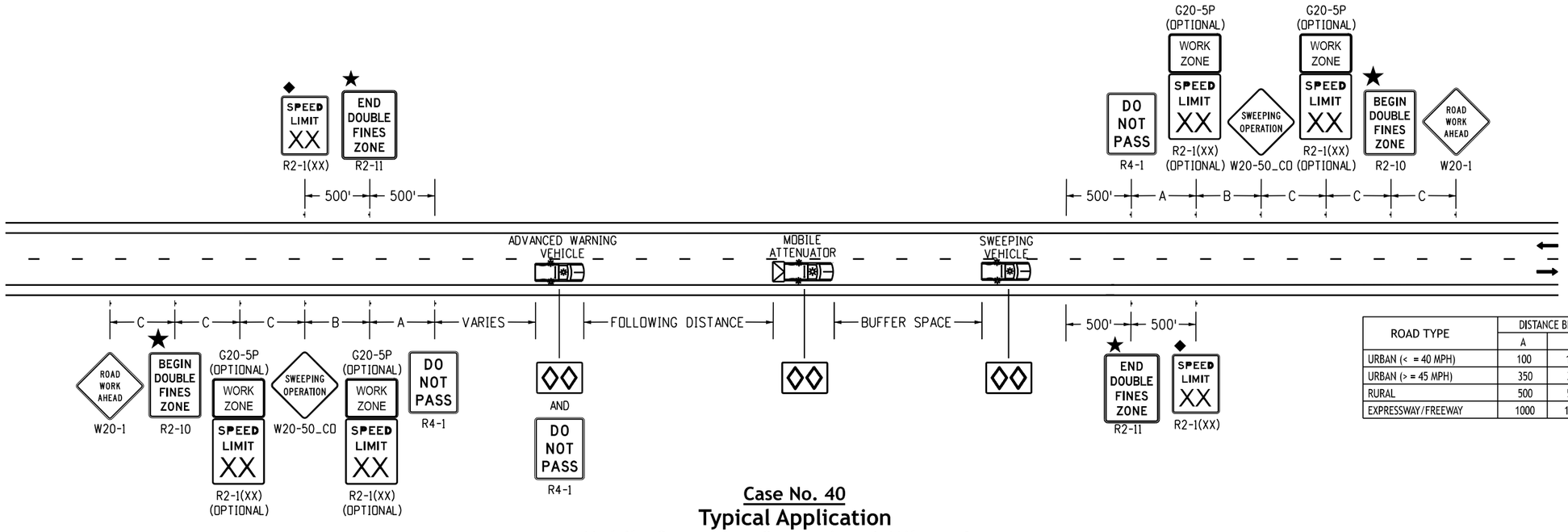
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 23 of 26
Project Sheet Number:



ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Case No. 40
Typical Application
Mobile Sweeping Operation 1 Mile or Less

Following Distance Chart for Warning and Mobile Attenuator (or Sweeping) Vehicle

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)	BUFFER SPACE (FEET)
0 - 30	250 - 550	100 - 120
35 - 40	325 - 700	100 - 120
45 - 50	600 - 900	120 - 140
55	750 - 1200	120 - 140
60	1000 - 1400	180 - 200

SPEED REDUCTION CHART (SEE GENERAL NOTE 3)			
EXISTING POSTED SPEED	FIRST WORK ZONE SPEED	SECOND WORK ZONE SPEED	SPEED AFTER WORK ZONE
75 MPH	60 MPH	45 MPH	75 MPH
70 MPH	55 MPH	40 MPH	70 MPH
65 MPH	50 MPH	40 MPH	65 MPH
60 MPH	45 MPH	40 MPH	60 MPH
55 MPH	40 MPH	N/A	55 MPH
50 MPH	40 MPH	N/A	50 MPH
45 MPH	40 MPH	N/A	45 MPH

Legend

- Mobile attenuator vehicle, two 360-degree yellow flashing beacons, and yellow flashing vehicle lights or strobes.
- Arrow Board
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- ★ See Fines Double Signing Notes on Sheet 12.

Computer File Information	
Creation Date: 07/04/12	
Created By: KEN	
Last Modification Date: 07/01/26	
Last Modified By: NRR	
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

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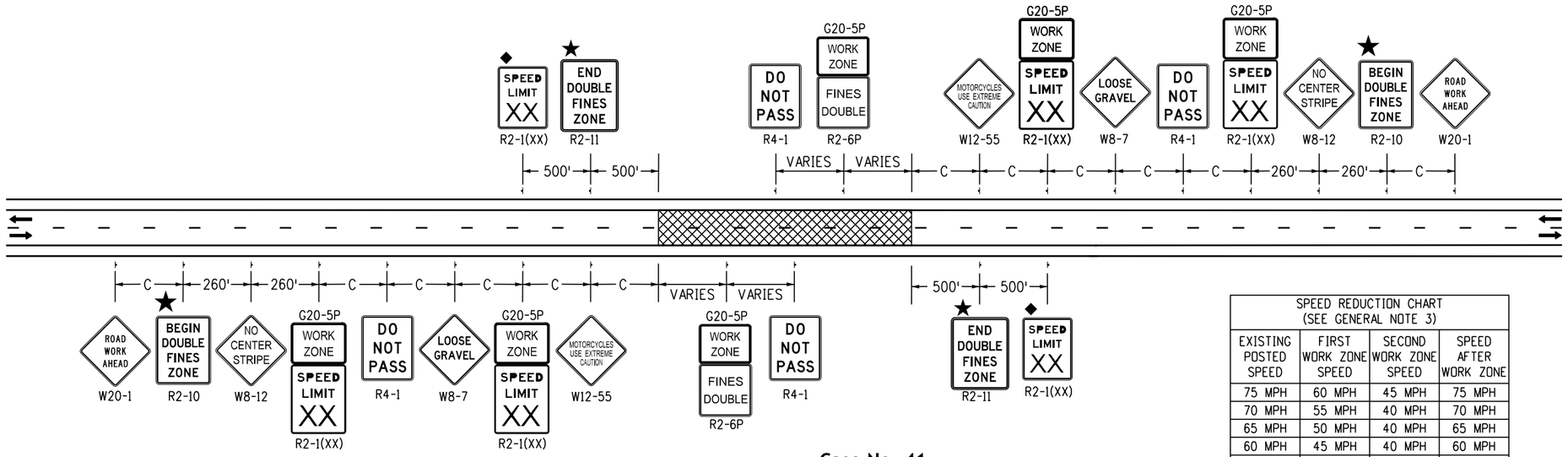
Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.
S-630-1
Standard Sheet No. 24 of 26
Project Sheet Number:

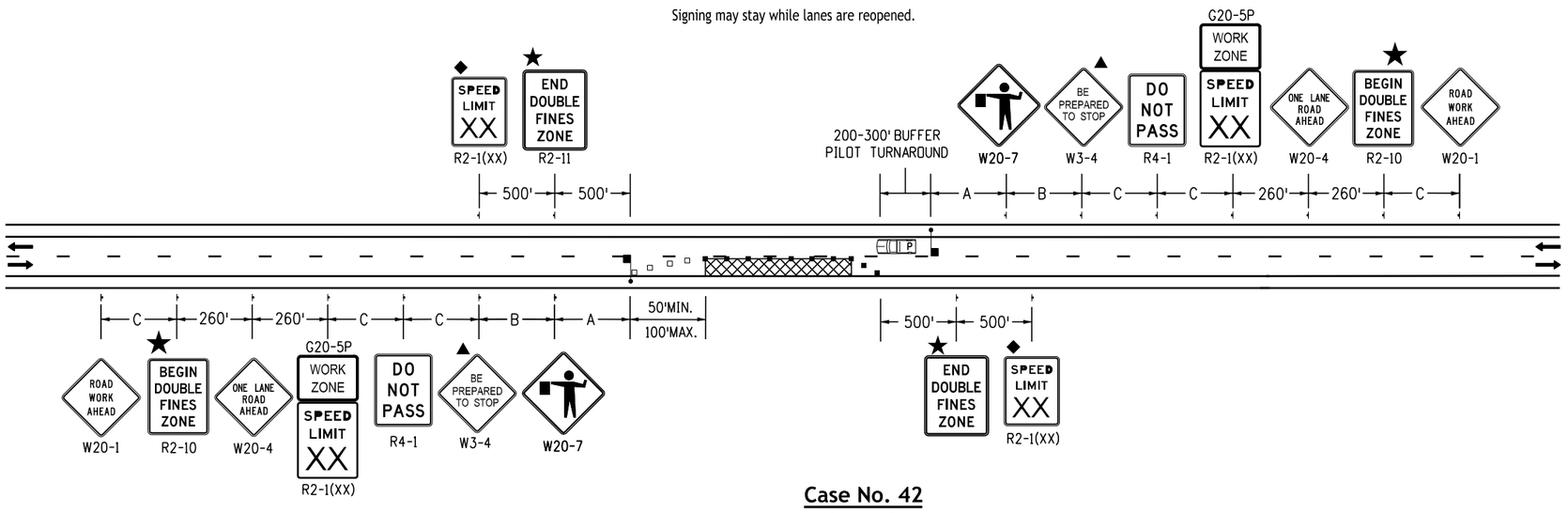


Case No. 41
Typical Application
Chip Seals - Two-Lane Undivided Highway

Note: Follow applicable standards as shown in Case No. 17 on Sheet 9, Case No. 19 on Sheet 10, and Part 6 of the latest MUTCD for lane closure in work area.

Signing may stay while lanes are reopened.

SPEED REDUCTION CHART (SEE GENERAL NOTE 3)			
EXISTING POSTED SPEED	FIRST WORK ZONE SPEED	SECOND WORK ZONE SPEED	SPEED AFTER WORK ZONE
75 MPH	60 MPH	45 MPH	75 MPH
70 MPH	55 MPH	40 MPH	70 MPH
65 MPH	50 MPH	40 MPH	65 MPH
60 MPH	45 MPH	40 MPH	60 MPH
55 MPH	40 MPH	N/A	55 MPH
50 MPH	40 MPH	N/A	50 MPH
45 MPH	40 MPH	N/A	45 MPH



Case No. 42
Typical Application
Pilot Car - Lane Closure, Two-Lane Undivided Highway

Notes

1. All night hazards will be marked and delineated.
2. All speed limit signs conflicting with work zone speed shall be covered during speed reduction.

Legend

- ■ Channelizing device: for type of device to be used, see schedule of traffic control devices included in the plans.
- □ Drums or vertical panels shall be used to delineate merging tapers, shifting tapers, and one lane, two-way traffic tapers.
- Flagger Station
- Direction Of Travel
- Work Area
- L — Transition Taper Length:
  - L = Minimum Length Of Taper
  - Speed 45 Mph or More: L = S X W
  - Speed 40 Mph or Less: $L = \frac{WS^2}{60}$
  - S = Numerical Value of Speed Limit or 85 Percentile Speed
  - W = Width of Offset
  - Shoulder Taper = 1/3 L
- ▲ These devices are optional. Their need shall be determined by detour design and/or scope of construction activity and are required when they are included in the schedule of consturction control devices.
- ◆ These devices are not optional if the posted speed limit in the work zone is reduced.
- VARIES — Buffer Space (see General Note 23 on Sheet 2).
- P — Pilot Car
- ★ See Fines Double Signing Notes On Sheet 12.

Key to Advance Signing Distances

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< = 40 MPH)	100	100	100
URBAN (> = 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information	
Creation Date: 07/04/12	
Created By: KEN	
Last Modification Date: 07/01/26	
Last Modified By: NRR	
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

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Standard Plan No.
S-630-1
Standard Sheet No. 25 of 26
Project Sheet Number:

Typical Construction Zone Signs

These signing notes are intended as a quick reference for typical sign use and placement in construction zones.

G20-1 "Road Work Next XX Miles" - This sign shall be erected at the limits of any road construction or maintenance project of more than two (2) miles in length where traffic is maintained through the project.

G20-4 "Pilot Car Follow Me" - This sign shall be mounted in a conspicuous position on the rear of a vehicle used for guiding one-way traffic through or around the project.

G20-5P "Work Zone" - This plaque shall be mounted just above the work zone speed limit signs prior to the work zone area.

G20-55(X) "X Minute Closure Expect Delays" - This sign is intended for use 500 feet past the "Work Zone" with speed limit sign.

M4-9() "Detour/<<<<" - This sign is used for unnumbered routes; for use in emergency situations; for periods of short duration; or where, over relatively short distances. It is not necessary to show route markers to guide traffic along the detour and back to its authorized route.

M4-10 () "Detour Arrow" - this sign should be mounted just below the road closed sign at the point where the detour roadway or route has been established due to the closure of the street or highway to through traffic.

R2-1() "Speed/Limit/XX" - These signs are intended to reduce traffic speed in advance of the daily work area within the overall project limits.

R2-1(XX) "Speed/Limit/XX" - This sign is intended for use 500 feet "End Double Fines Zone" sign to bring traffic back to original posted speed.

R2-6P "Fines Double" - This sign is intended for use within work zones to provide notice of increased fines for traffic violations within work zones.

R4-1 "Do Not Pass" - This sign should be placed at transition taper point.

R4-2 "Pass With Care" - This sign should be placed at transition taper point.

R2-10 "Begin Double Fines zone" - Sign is placed at the beginning of the advanced warning area of the traffic control zone.

R2-11 "End Double Fines Zone" - Sign is placed after work zone area, past downstream taper section.

R11-2 "Road/Closed" - This sign is to be mounted on the barricade that is placed before the work zone entrance to prohibit traffic from entering the work zone.

R11-3 "Road Closed/X Miles Ahead/Local Traffic Only." - This sign should be placed where through traffic must detour to avoid the closure of the road some distance beyond, but where the road is open to local traffic up to the point of closure.

R11-4 "Road Closed/To/Thru Traffic" for urban use - This sign should be placed where through traffic must detour to avoid the closure of the road some distance beyond, but where the road is open to local traffic up to the point of closure.

R22-2 "Turn Off/2-Way Radios/and/Cellular/Phones" - This sign is to be used in sequence with the W22-1 and W22-3 signs and placed at least 1000 feet from the beginning of the blasting zone.

W1-1() "Turn Arrow" - This sign is intended for use where engineering investigations of roadway conditions show the recommended speed on the turn to be 30 mph or less. ✱

W1-2() "Curve Arrow" - this sign is intended for use where engineering investigations of roadway conditions show the recommended speed on the curve to be in the range between 30 and 60 miles per hour. ✱

W1-3() "Reverse Turn Arrow" - This sign is intended for use where two turns or the curve and a turn in opposite directions are separated by a tangent of less than 600 feet.✱

W1-6() "Arrow" - This sign should be mounted just below the road closed sign at the point where the diversion has been established due to the lane closure.

W3-2 "Yield Ahead" - This sign is intended for use at the approach to the yield sign that is not visible for a sufficient distance to permit the driver to bring his vehicle to a stop at the yield sign. ✱

W3-4 "Be Prepared To Stop" - This sign to be placed in advance of a flagger.

W4-2(X) "Left (Right) Lane Transition Symbol" - This sign is intended for use in advance of the reduction in the number of traffic lanes in the direction of travel on the multilane highway. ✱

W4-50 "Use Both Lanes During congestion" - This sign is intended for use in advance of the "Road Work X Mile" advanced warning sign.

W4-51 "Use Both Lanes To Merge Point" - This sign is intended to direct motorists to use both travel lanes until the lanes are reduced to one lane.

W4-51 "Take Turns Merge Here" - This sign is intended to warn motorists in advanced to move from the closed travel lane to the open travel lane, usually 500 feet in advanced of the start of the transition taper.

W5-1 "Road Narrows" - This sign is intended for use in advance of the transition on the road where the pavement width is reduced abruptly to a width such that two cars cannot pass without reducing speed. ✱

W5-2a "Narrow Bridge symbol" - This sign is intended for use in advance of a bridge or culvert having a clear two-way roadway width of 16 to 18 feet or any bridge or culvert having a roadway clearance less than the width of the approach pavement. ✱

W5-3 "One Lane/Bridge" - This sign should be placed on two-way roadways in advance of the bridges or culverts where the roadway width is less than 16 feet (18 feet for commercial vehicles) or when the alignment is poor on the approach to the structure having a clear roadway width of 18 feet or less. ✱

W6-1 "Divided Highway Symbol" - This sign should be placed on the approaches to the section of highway where opposing flows of traffic are separated by a physical median.

W6-2 "Divided Highway Ends Symbol" - This sign should be placed at the end of the section of physically divided highway as a warning of two-way traffic ahead.

W6-3 "Two-Way Traffic Symbol" - this sign is intended for use to give warning of transition from a separated one-way roadway to a two-way roadway. ✱

W7-1 "Hill Symbol" - This sign should be placed at a point in advance of the downgrade where the length, percent of grade, horizontal curvature, or other physical features require special consideration on the part of drivers. ✱

W8-1,W8-2 "Bump"/"Dip" - These signs are intended for use to give warning of a sharp rise ordepression in the profile of the road that is sufficiently abrupt to affect vehicle operation or cause considerable discomfort to passengers. ✱

W8-3a "Pavement Ends Symbol" - This sign is intended for use in advance of a point where the pavement surface changes from a hard-surfaced pavement to the low-type surface or earth road. ✱

W8-4 "Soft Shoulder" - This sign is intended for use to warn of a soft shoulder condition that could present a problem to vehicles that may get off the pavement. ✱

W8-5 "Slippery When Wet Symbol" - This sign should be placed in advance of the condition where the highway surface is slippery beyond what is ordinary when wet. ✱

W8-9a "Shoulder Drop-Off" - This sign is intended for use in advance of a shoulder drop-off that exceeds three inches in height. ✱

W8-11 "Uneven Lanes" - This sign is intended for use in advance of an uneven adjacent lane situation that exceeds one inch in height. ✱

W9-1() "Left (Right) Lane Ends" - This sign is intended for use in advance of the pavement width transition sign (W4-2).

W9-2() "Lane Ends/Merge Left (Right)" - This sign is intended for use as a supplement to the pavement width transition sign (W4-2).

W9-3 "Center Lane Closed Ahead Symbol" - This sign should be used in advance of the point where work occupies the center lane and traffic is directed to the right or left of the work zone. ✱

W12-1 "Double Arrow Symbol" - This sign should be placed at the point of the obstruction in the roadway, where traffic is permitted to pass on either side of the obstruction.

W12-2 "Low Clearance Symbol" - This sign is intended for use in advance of an obstruction to warn vehicle operators of clearances less than the maximum vehicle height permitted plus 12 inches. ✱

W13-1P() "Advisory Speed Plaque" - This plaque is intended to supplement warning signs only and shall not be mounted alone. it is used to indicate the maximum recommended speed for the indicated condition.

W13-3 "Advisory Ramp Speed" - This sign is to be posted to inform motorists what the suggested speed limit is on a ramp.

W20-1 "Road/Work/Ahead" - This sign is to be located in advance of the initial activity or detour a driver may encounter, and is intended to be used as a warning of obstructions or restrictions.

W20-2 "Detour/(Dist.)" - This sign is intended for use in advance of the point at which traffic is diverted over a temporary roadway or route.

W20-3 "Road/Closed/(Dist.)" - This sign is intended for use in advance of a point at which a roadway is closed to all traffic or to all but local traffic.

W20-4 "One Lane/Road/(Dist.)" - This sign is intended for use in advance of a point where traffic in both directions must use a single lane.

W20-5() "XXX Lane/Closed/(Dist.)" - This sign is intended for use in advance of a point where one lane of a multiple-lane roadway is closed. it should be provided with interchangeable plaques reading "right", "left", and "center" at no additional cost to the project.

W20-7 "Flagger Symbol" - This sign is intended for use in advance of any point at which a flagger has been stationed to control traffic through or around the project. ✱

W20-52 "Grooved/Pavement/Ahead" - This sign is intended to be used in advance of a roadway that has been grooved and/or roto milled.

W21-1a "Worker Symbol" - This sign is intended for use in conjunction with minor maintenance and public utility operations for the protection of men working in or near the roadway.

W21-2 "Fresh/Oil" - This sign is intended for use where re-surfacing operations have rendered the surface of the pavement temporarily wet, and objectionable splashing on vehicles may occu✱

W21-3 "Road/Machinery/Ahead" - This sign is intended for use in advance of the areas where heavy equipment is operating in or adjacent to the roadway. ✱

W21-4 "Road/Work/(Dist.)" - This sign is intended for use in advance of maintenance for minor reconstruction operations in the roadway.

W21-5 "Shoulder/Work" - This sign is intended for use in advance of the project involving the shoulder, where the traveled way remains unobstructed.

W21-6 "Survey/Crew" - This sign is intended for use in advance of a point where a surveying crew is working in or adjacent to the roadway. ✱

W21-20 "Highway Painting Ahead" - This sign is intended for use in advance of a point where a paint crew is working in or adjacent to the roadway.

W21-20a "Highway Painting Next X Miles" - This sign is intended for use in advance of paint crew working in or adjacent to the roadway.

W22-1 "Blasting/Zone/(Dist.)" - This sign is intended for use in advance of any point or work site where there are explosives being used. the R22-2 and W22-3 signs must be used in sequence with this sign.

W22-3 "End/Blasting/Zone" - This sign is to be used to denote the end of the radio influence area and shall be placed a minimum of 1000 feet from the blasting zone, either with or preceding the end construction sign.

W22-50(X) "Rock Scaling X Mile(s)" - This sign is intended to be used in advanceof a flagger in advanced of the work zone area.

Advance Placement Of Warning Signs

POSTED OR 85TH PERCENTILE SPEED	ADVANCE PLACEMENT DISTANCE (FEET)								
	+ CONDITION A	++ CONDITION B: DECELERATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION							
		MPH							
		0	10	20	30	40	50	60	70
20	225	115	●	--	--	--	--	--	--
25	325	155	●	●	--	--	--	--	--
30	460	200	●	●	--	--	--	--	--
35	565	250	●	●	●	--	--	--	--
40	670	305	100'	100'	●	--	--	--	--
45	775	360	125	100'	100'	●	--	--	--
50	885	425	200	175	125	100'	--	--	--
55	990	495	275	225	200	125	●	--	--
60	1100	570	350	325	275	200	100'	--	--
65	1200	645	450	400	350	275	200	100'	--
70	1250	730	525	500	450	375	275	200	--
75	1350	820	625	600	550	475	375	300	150

+ Condition A: Speed reduction and lane changing in heavy traffic. Typical signs are "Merge" and "Right Lane Ends".

++ Condition B: Typical conditions are the warning of a potential stop situation and locations where the road user must decrease speed to maneuver through the warned condition. Typical signs are "Stop Ahead", "Signal Ahead", "Yield Ahead", "Curve", "Reverse Curve", "Turn".

● No suggested distances are provided at these speeds, as the placement is dependent on site conditions and other signing.

Δ The minimum advance placement distance is listed as 100 feet to provide adequate spacing between signs.

A supplemental plaque may be used with warning signs specifying the distance to the condition if there is an in-between intersection that might confuse the motorist.

✱ Placement should be in accordance with warning sign placement table.

Computer File Information
Creation Date: 07/04/12
Created By: KEN
Last Modification Date: 07/01/26
Last Modified By: NRR
CAD Ver.: ORD 10.12 Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments

Colorado Department of Transportation

Traffic Safety & Engineering Services

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EB

Traffic Controls for Highway Construction

Issued by the Traffic Safety & Engineering Services: July 01, 2026

Standard Plan No.

S-630-1

Standard Sheet No. 26 of 26

Project Sheet Number: