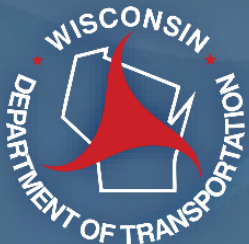


Wisconsin Flagging Handbook

Flagger Certification



Course Overview

- Introduction & General Flagging Overview – *30 min*
- Flagging Apparel & Equipment – *15 min*
- Flagging Positions – *15 min*
- Two Flagger Operations – *30 min*
- Single-Flagger Operations – *20 min*
- Pilot Car Operations – *20 min*
- Break – *10 min*
- Equipment Crossings – *10 min*
- Intersection Work – *10 min*
- Mobile Operations – *10 min*
- Railroad Crossings – *10 min*
- Emergency Flagging – *10 min*
- Nighttime Operations – *10 min*
- Quiz – *20 min*
- Wrap-Up – *20 min*

Wisconsin Flagging Handbook Training

2020

WISCONSIN FLAGGING HANDBOOK

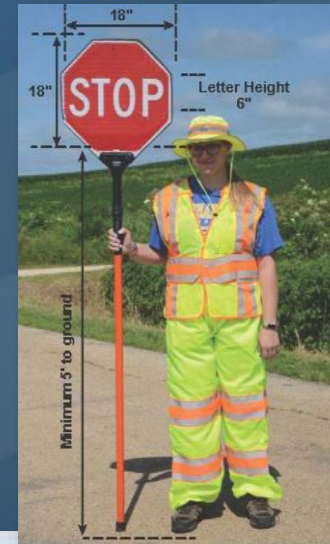


- Follow the Handbook when working on state-owned highways.
- As a flagger, your chief duties are to:
 - Guide traffic safely through work areas.
 - Protect your fellow workers.
 - Prevent unreasonable delays for road users.
 - Answer motorists' questions politely and knowledgeably.

Course Objectives

After this course, you will be able to:

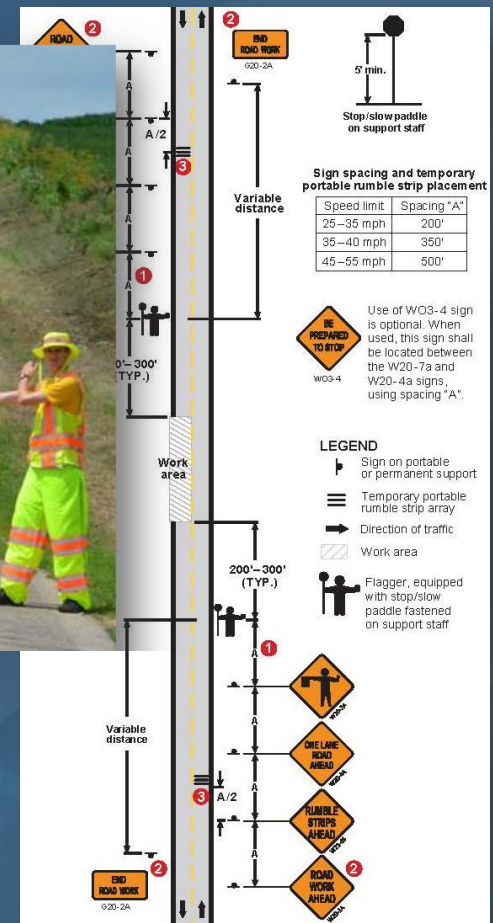
1. Understand the requirements for proper personal protective equipment.
2. Demonstrate the proper advance warning sign placement for flagging.
3. Demonstrate the proper placement of temporary portable rumble strips.
4. Demonstrate properly locating themselves in relation to traffic.



Course Objectives

After this course, you will be able to:

5. Demonstrate properly locating themselves in relation to obstructions.
6. Demonstrate proper single flagging technique.
7. Demonstrate proper two flagger flagging technique.
8. Demonstrate proper flagging technique at an intersection.



Course Objectives

After this course, you will be able to:

9. Demonstrate proper flagging technique when pilot cars are used.
10. Demonstrate proper measures for warning others of non-compliant vehicles.
11. Demonstrate proper technique when flagging at night.



Certification Requirements

- Each flagger shall have a minimum of 4 hours of classroom training to demonstrate the proper flagging techniques from this training
- Must have passing quiz grade of 70% or above.
 - Can use notes!
- Each flagger shall have a minimum of 8 hours of in-field (on-the-job) training before being allowed to flag on their own
- Flaggers shall take a refresher course every 2 years
- Questions may be directed to
DOTDTSDFlaggerCertification@dot.wi.gov

Certification Requirements

- Flaggers shall carry certification card with them during flagging operations.
 - Certificate will be provided by instructor immediately after course. Flagger should carry certificate with them until certification card arrives.
 - Certification is transferable to other counties (if you move to another county/firm)
 - Can be shown on mobile device



This acknowledges that

has successfully passed the
**Wisconsin Flagging Handbook
Training Certification Course**
and is eligible to perform flagging operations on Wisconsin
state-owned highways.

Instructor: _____ **Date:** _____

Expiration Date: _____
(2 years from training date)

Certificate – will receive today



This acknowledges that

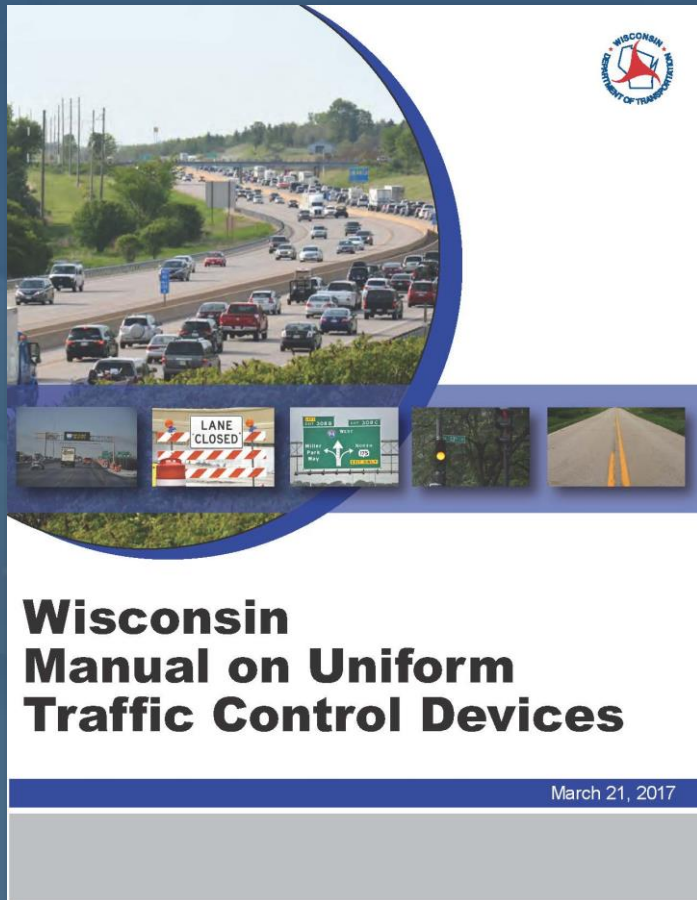
has successfully passed the
**Wisconsin Flagging Handbook
Training Certification Course**
and is eligible to perform flagging operations on Wisconsin
state-owned highways.

Instructor: _____ **Date:** _____

No.: _____ **Expiration Date:** _____
(2 years from training date)

Wallet card – will be emailed
to you after course

Wisconsin Requirements



- The information in this training is consistent with the 2009 edition of the Wisconsin Manual on Uniform Traffic Control Devices (WisMUTCD), Part 6, and the State of Wisconsin Standard Specifications for Highway and Structures Construction.

- The Wisconsin Flagging Handbook **shall** be followed when working on all Wisconsin (state-owned) highways

What happens if Flagger is not certified?

If Flagger cannot provide proof that he/she is certified by the State of Wisconsin upon request of State Inspector, the Supervisor of the project will be asked to replace the Flagger with a certified flagger or shut down operations for the safety of the workers and traveling public.

Work Zone Safety & Statistics

Why is this training so important?

- Worker Fatalities

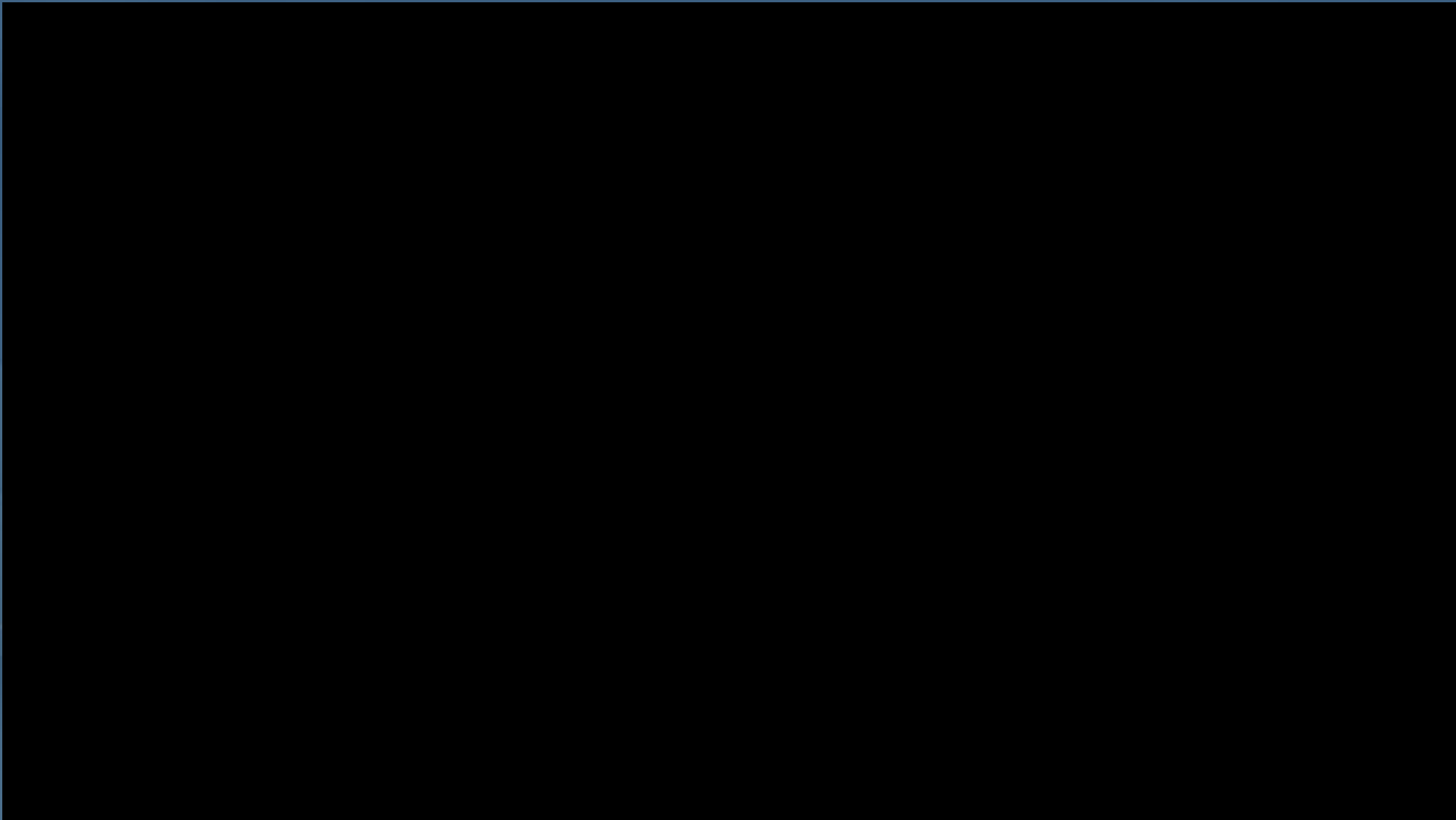
- About 19 workers/year killed by traffic in US work zones.
- At least 20% of worker deaths involve flaggers. *(Source: BLS/Pegula 2013)*

- In Wisconsin in 2018

- More than 3,100 crashes occurred in road construction & maintenance zones with 1,280 being injuries and 9 being deaths

- Fatal crashes occurred in:

- Jefferson (1)
- Milwaukee (1)
- Oconto (1)
- Racine (2)
- Rock (3)
- Winnebago (1)



You play a vital part in keeping the public and your co-workers safe. If you are unsure of any flagging procedure, ask your Supervisor for further explanation.

Lives, including your own depend on it!

Rules of Conduct

- ***Before beginning your flagging duties, do the following:***
 - **Park your vehicle in a location that does not conflict with flagging operations and allow you to have an escape route.**
 - **Make sure your apparel and equipment are clean and neat.**
 - **Make sure proper signs are in place.**
 - **Become familiar with the work activities so you can answer motorists' questions.**
 - **Discuss a reasonable relief schedule with your supervisor or crew leader.**
 - **If two or more flaggers working together, designate one flagger as flagger in charge.**



Rules of Conduct

- ***During flagging operations, do the following:***
 - Do not leave your position for any reason until relieved.
 - Always remain standing and never turn your back on traffic.
 - Stand alone. Do not mingle with the work crew, the traveling public, or other people.
 - Stay alert. Don't be distracted by the work operation and don't perform other activities.
 - Be friendly and polite with the public, but do not engage in small talk. Answer any questions they may have about navigating through the work zone.
 - Never argue with the occupants of a vehicle.

Rules of Conduct

- ***During flagging operations, do the following:***
 - If a driver refuses to obey instructions, inform your supervisor or crew leader as soon as possible without leaving your post. Carry a pocket notebook for recording:
 - Information to identify the driver.
 - Description of the vehicle and license plate number.
 - Circumstances involved in the incident.
 - Be alert to the needs of emergency vehicles. They should be given priority, but only when safety of all persons in the area will not be compromised.

Rules of Conduct

- ***If a crash occurs in or near the work zone:***
 - Do not leave your post.
 - Warn other flaggers and workers.
 - Advise your supervisor and/or authorities.
 - Record any pertinent information.

Talk with your Supervisor

- The Supervisor's involvement is critical to proper flagging and traffic control.
 - Make sure they provide proper equipment and apparel for flaggers.
 - Make sure they provide adequate breaks for flaggers.
 - Make sure they provide relief for flaggers by alternating flaggers and/or pilot car drivers periodically throughout the day.
 - Know what to do to handle non-compliant drivers.
 - Discuss appropriate actions for possible incidents in or near the work zone.

Addendum to Handbook

(December 3, 2019)

- *Emergency Flagging and backing or spotting vehicles onto the roadway do not require a certified flagger, advanced warning signs, or temporary portable rumble strips.*
- *For short-duration work, anticipated to last 60 minutes or less:*
 - *A certified flagger is required.*
 - *Advanced warning signs (Flagger Ahead and One Lane Road Ahead) are required.*
 - *All other advanced warning signs (Road Work Ahead and End Road Work) are recommended.*
 - *Temporary portable rumble strips are not required.*
- *For work anticipated to last longer than 60 minutes:*
 - *A certified flagger, advanced warning signs and temporary portable rumble strips are required.*

Flagging Apparel

- Flaggers shall wear (at minimum)
 - Vest (shirts/coats that exceed Class 2 may be worn instead of vest)
 - Pants (minimum Class E)
 - ANSI 107-2015 type R compliant
- Inclement weather gear shall meet ANSI 107 requirements
- Recommended to wear headwear meeting ANSI 107 requirements



Flagging Equipment

- Flaggers shall be equipped with:
 - STOP/SLOW paddle with retroreflective sheeting that complies to specs
 - Hand-held radio for communication when 2+ flaggers used
- At night, flaggers shall be equipped with:
 - Flashlight with red glow cone, lantern, or other lighted signal that will display a red warning light
 - Lighted flagger station
- Recommended equipment:
 - Pad & Pencil
 - Air horn or whistle

Flagging Equipment

- New Equipment & Technologies
 - Airhorns
 - AFADs
 - iCone
 - Temporary Portable Rumble Strips



Flagging Equipment

- Temporary Portable Rumble Strips (TPRS)
 - Use on all flagging operations.
 - Not required on roadways with posted speed limits of 35 mph or less.
 - Do not install on high speed (65 mph or higher) multi-lane roadways
 - Do not install TPRS on gravel, milled surfaces, or asphalt that has been paved less than 12 hours.
 - Each array consists of 3 rumble strips spaced according to manufacturer's recommendation, placed transverse across the lane.
 - Only use TPRS from the approved products list.
 - Place advance signing prior to installing TPRS.



TPRS

- Make sure properly placed and spaced

What's wrong in these pictures?



Unhinged rumble strips

Flagging Positions

- In rural areas, flagger stations should generally be located:
 - Typically 200–300 feet in advance of the work area.
 - Where the flagger is visible to approaching traffic appropriate for speed of facility.



Flagging Positions

- **Position yourself carefully to stay safe and to control traffic through the work area:**
 - Always stand and face oncoming traffic.
 - Do not stand in the path of an approaching vehicle.
 - Stand where you will be highly visible at all times and:
 - Do not stand in shadows.
 - Do not stand near parked vehicles or equipment that might hide you from approaching drivers.
 - Do not sit.
 - Always have an escape route in mind.

Good Examples

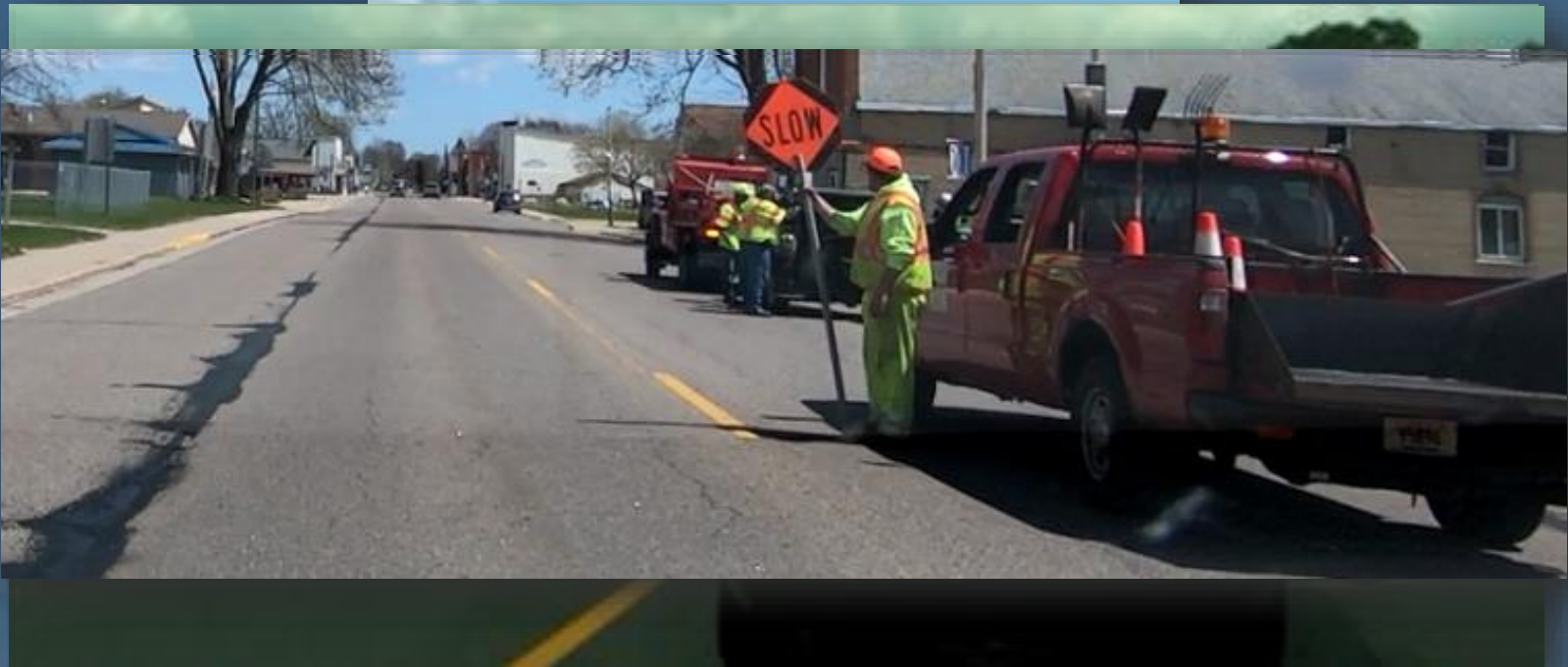
Good stance, facing traffic



Flagging stations can be used,
but must be manned at all times.
Stations must be MASH compliant

Bad Examples

What's wrong in these pictures?



Flagger does not have proper escape route
Flagger leaving work area without equipment

Bad Examples



Flagger flipped paddle before opposing traffic was through
Flagger showing inattentive flagger paddle while talking to motorist

Flagging Operations

Two-Flagger Operations

- To *stop* traffic, follow these steps:
 1. Stand on the shoulder of the road holding the STOP/SLOW paddle in your right hand, erect and away from your body with the STOP side facing approaching traffic.
 2. Look directly at the approaching driver. Try to establish eye contact.
 3. Raise your free arm with the palm of your hand toward oncoming drivers.
 4. Bring the first vehicle to a full stop.



Flagging Operations

Two-Flagger Operations

- Continued...
 5. Stop other vehicles from this position using the STOP sign, hand signal, and eye contact as described in steps 1–4.
 6. Remain in this position until you can safely permit travel through the work area.
 7. Communicate by radio with the other flagger(s) a description of the last vehicle passing through and that you are holding traffic.



Flagging Operations

Two-Flagger Operations

- To *release* traffic, follow these steps:
 1. If on centerline, return to shoulder.
 2. Hold paddle in your right hand, turn SLOW side toward stopped vehicles.
 3. With your free arm signal drivers to proceed. Never wave the paddle.
 4. Use your radio to notify the other flagger(s) that traffic is being released.

Flagging Operations



Releasing traffic into the open lane;
opposite drive lane



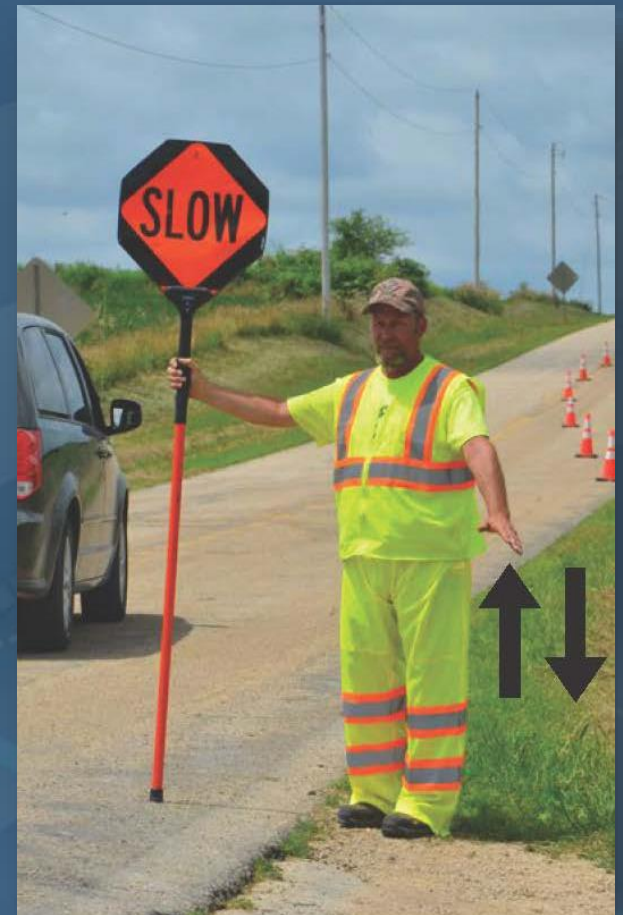
Releasing traffic into the open lane;
standard drive lane





Flagging Operations

- To *slow* approaching traffic, follow these steps:
 1. Stand on the shoulder of the road holding the paddle in your right hand with the SLOW side toward traffic.
 2. Extend your left arm and with the palm facing downward, motion up and down slowly to gain driver attention. If needed for emphasis, this motion can be more forceful.

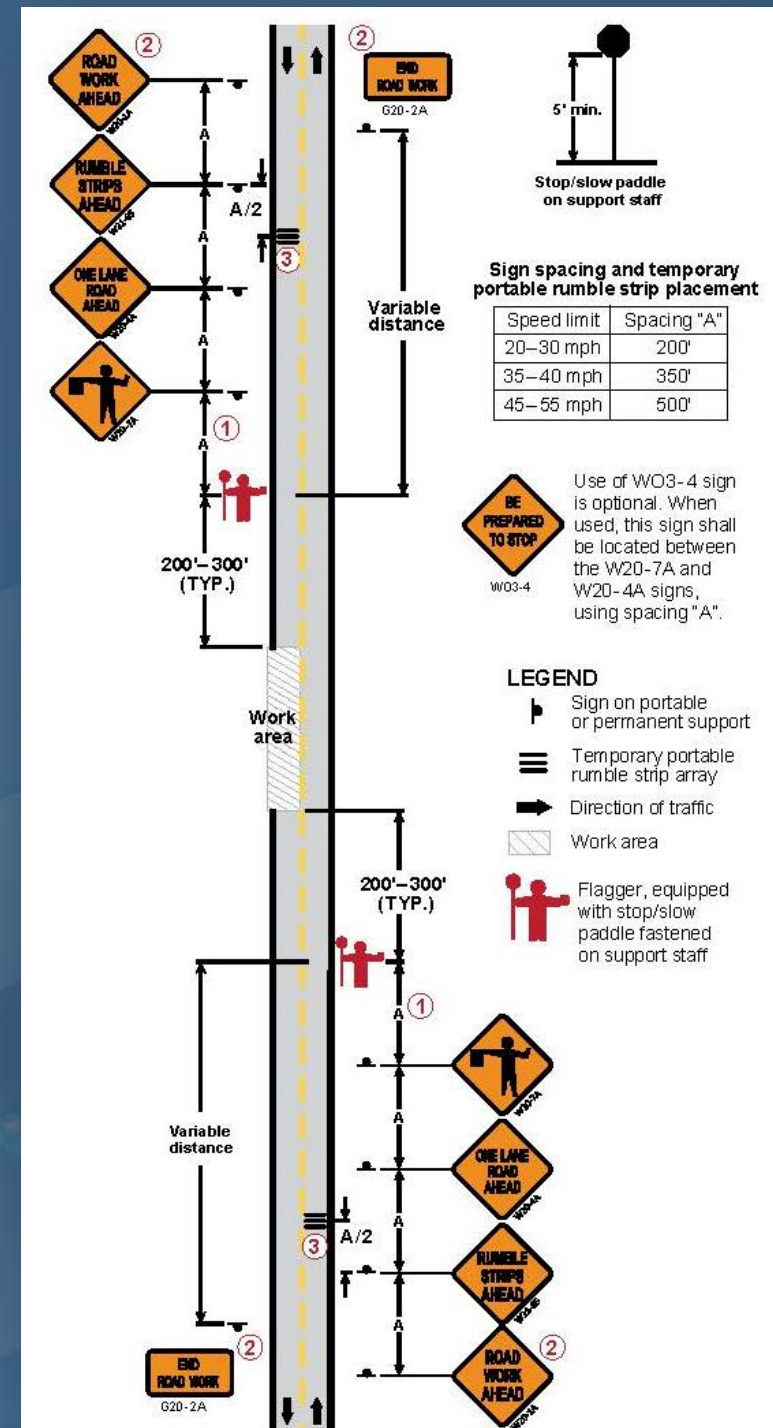




Flagging Operations

Two-Flagger Operations

- When flagging operation is not in effect, remove temporary portable rumble strips
- For moving work operations, post additional flagger signs (W20-7a) at 3500' intervals

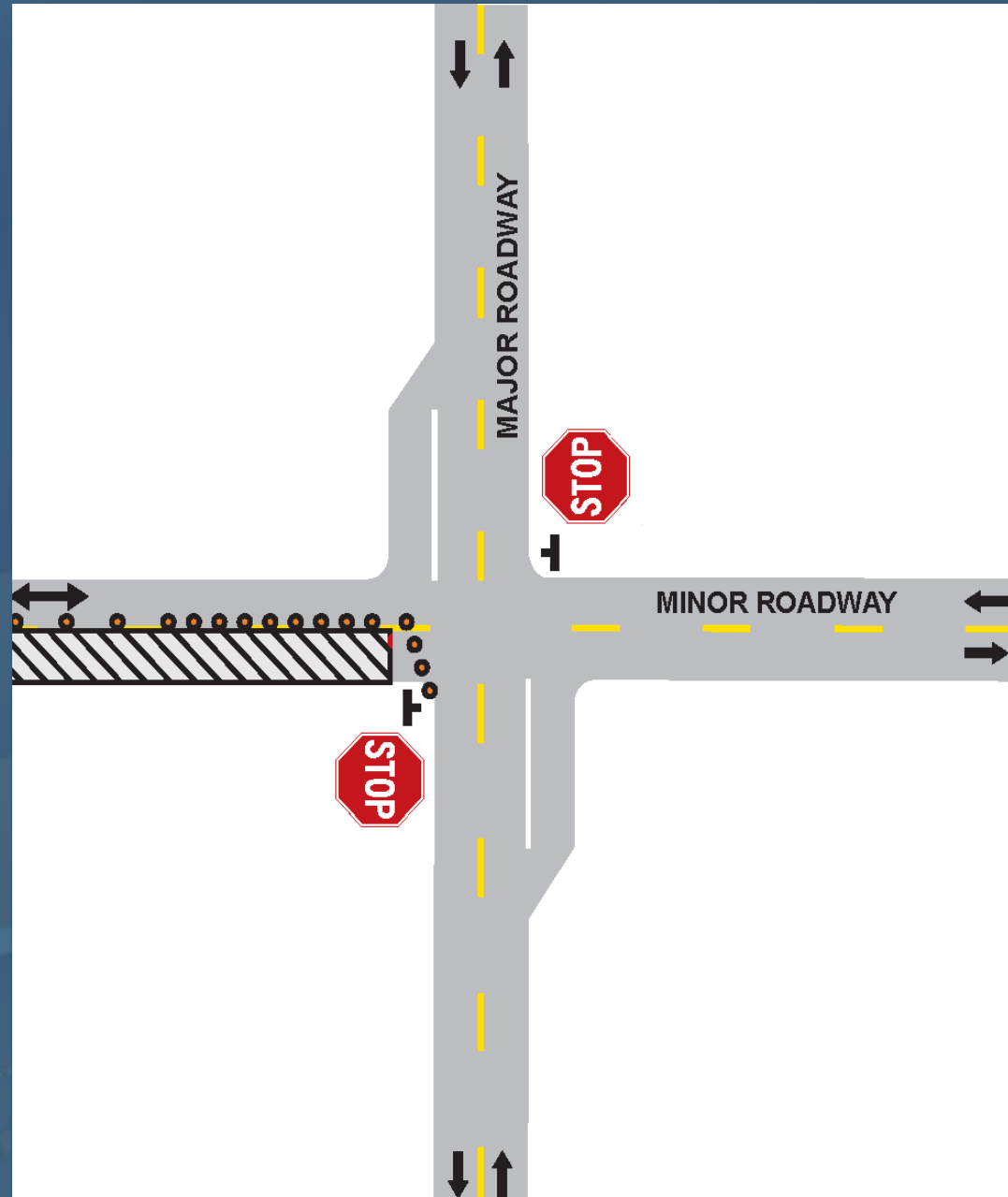


Tabletop Exercise #1

- Major roadway carries 5,000 vehicles per day; 55MPH posted speed
- Two-way stop intersection on minor roadway; 35MPH posted speed
- Work zone on one leg of minor roadway (1000 ADT) in one direction.
- Determine the following:
 - Number of Flaggers
 - Position/Location of Flaggers
 - Location/Spacing of Devices/Signs
 - *Do not need to show advanced warning for west end of work zone. Focus on intersection control.*

Tabletop Exercise #1

Flagger will be at beginning of the left leg work zone which is not shown.
Scenario should focus on intersection control



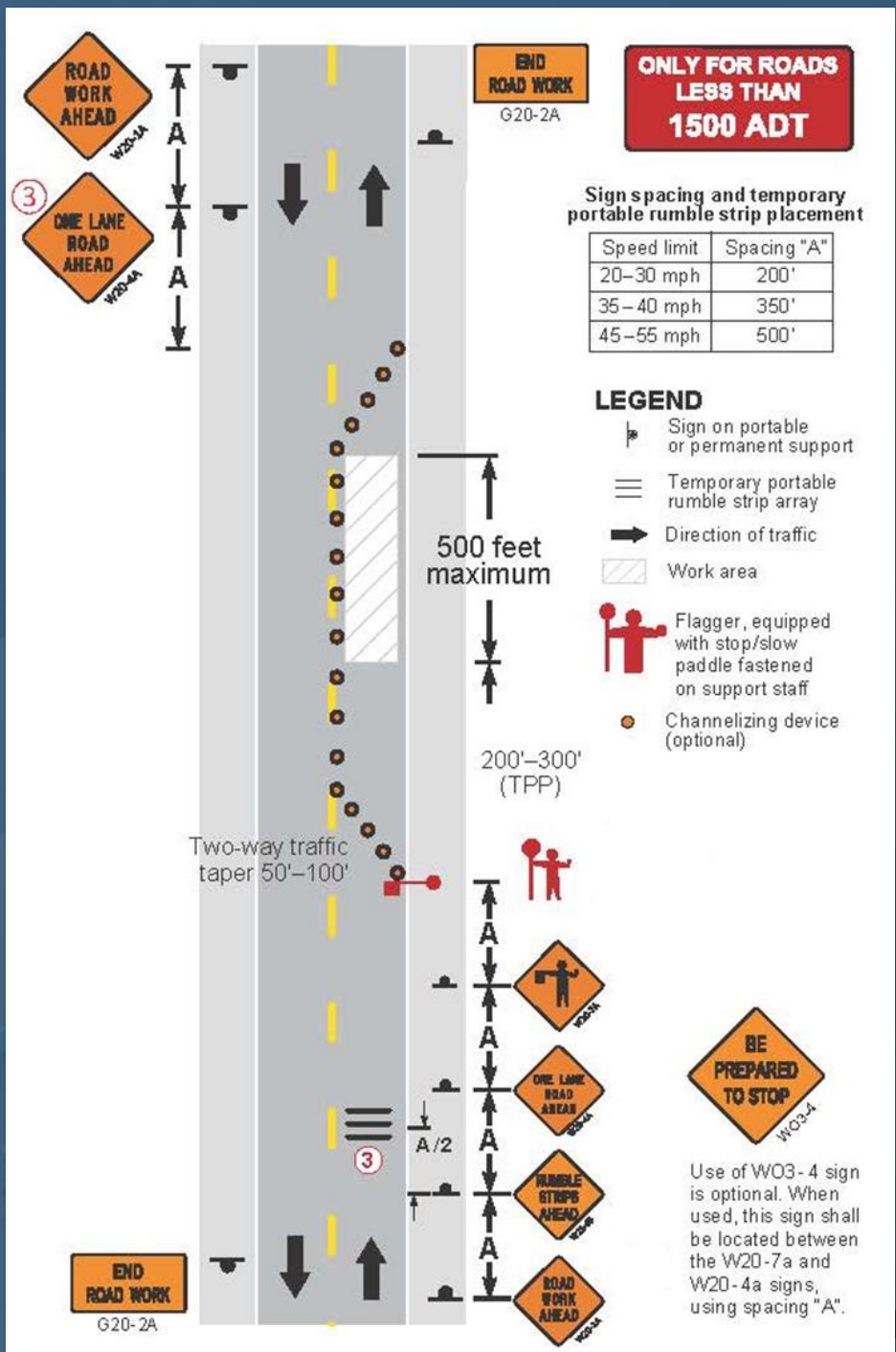
Flagging Operations

Single-Flagger Operations

- Can be used when sight distance is adequate, traffic volume low (less than 1,500 ADT), and work zone area 500 feet or less.
- May be used on low volume, straight roads.
- Usually involve temporarily stopping traffic in only one lane (for example, for loading or unloading operations). The other lane is allowed to flow freely at all times.
- Flagger may stand closer to work zone to better control both directions of traffic, or add an additional flagger.

Flagging Operations

Single-Flagger Operations



Flagging Operations

Single-Flagger Operations

- To release traffic, follow these steps:
 - Return to the shoulder of the road with the STOP side toward stopped vehicles.
 - Turn the paddle so neither STOP nor SLOW can be read by drivers approaching from either direction. Take care not to confuse continuous traffic traveling in the other lane in the opposite direction.
 - Motion for traffic to proceed.

Flagging Operations

Pilot Car Operations

- When the distance between flaggers exceeds 2 miles, a pilot car shall be used.
- Using a STOP/SLOW Paddle
 - Try to limit delays to 15 minutes maximum.
 - Stop vehicles in the approved manner.
 - Detain all vehicles until the pilot car arrives from the opposite direction.

Flagging Operations

Pilot Car Operations

- Continued...
 - After the pilot car arrives and has pulled into position at the head of your column of vehicles, step back onto the shoulder with STOP displayed.
 - Releasing traffic in the approved manner.
 - Refrain from unnecessary conversations with the pilot car driver.
 - Turn the SLOW side to face traffic, and motion the pilot car driver and others to proceed.

Flagging Operations

Pilot Car Operations

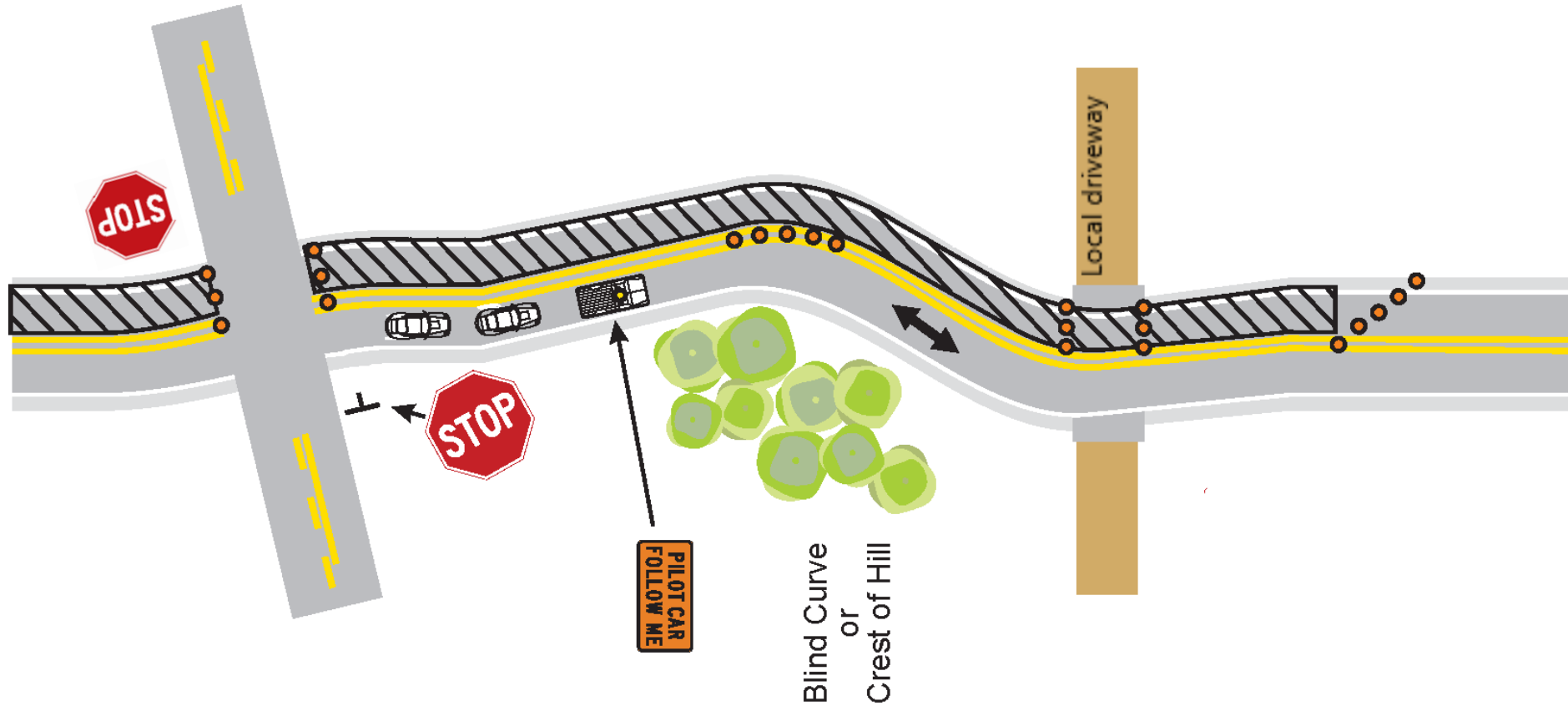
- The Pilot Car shall:
 - Have a valid drivers license
 - Be in radio contact with all flaggers
 - Drive at a speed not to exceed posted speed limit
 - Use a street legal vehicle
 - Prominently display the name of contractor or contracting authority on each side of the vehicle
 - Have a “Pilot Car, Follow Me” sign mounted on the rear of the vehicle, a minimum 5-feet above the pavement
 - “Do Not Pass” signs may be added to the work zone.



Tabletop Exercise #2

- Two-lane highway with two-mile work zone in one direction. Posted speed is 45MPH.
- Multiple curves, one local access road and one intersecting highway
- Determine the following:
 - Number of Flaggers
 - Position/Location of Flaggers
 - Location/Spacing of Devices/Signs

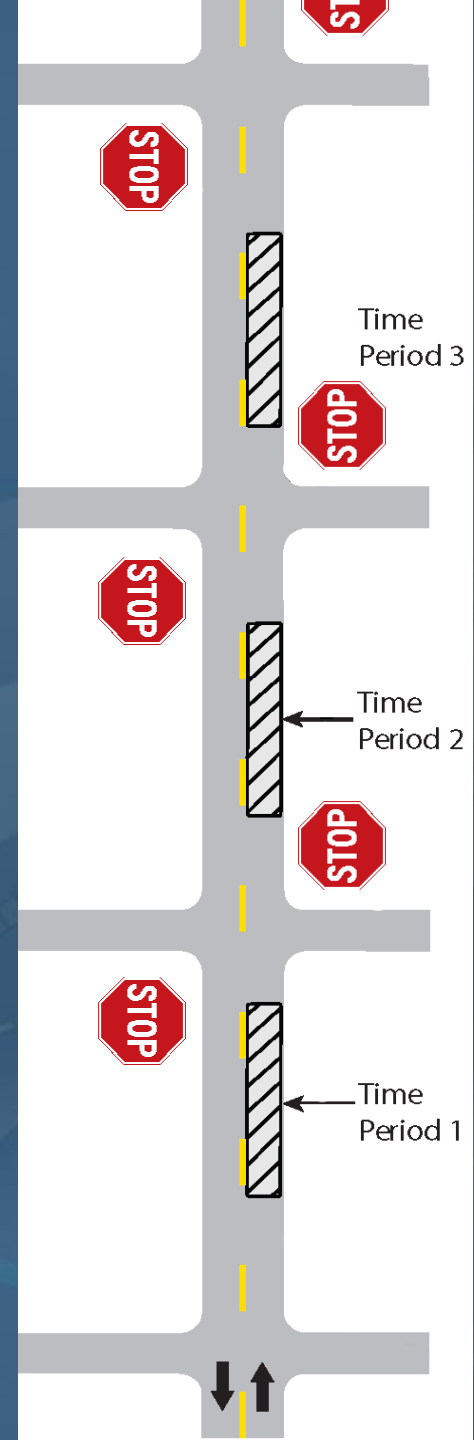
Tabletop Exercise #2



Tabletop Exercise #3

- Two-way highway with short term stationary work zones over a relatively long segment of highway in a short period of time but does not meet the requirements for a mobile work zone operation in one direction. Work areas are spaced 1 mile apart from the adjacent work area. Posted speed is 55MPH. Stop controlled at side roads.
- Determine the following:
 - Number of Flaggers for each Time Period
 - Position/Location of Flaggers for each Time Period
 - Location/Spacing of Devices/Signs for each Time Period

Tabletop Exercise #3



Flagging Operations

Equipment Crossings

- Use similar stopping & releasing traffic procedures:
 - When trucks are making a **right** turn onto the highway, only **one** flagger may be used



Flagging Operations

Equipment Crossings

- Use similar stopping & releasing traffic procedures:
 - When trucks are crossing the highway or making a **left** turn, **two** flaggers may be used, one for each direction



Flagging Operations

Intersection Work

- At least one additional flagger may be needed per intersection.
- Approaches with high traffic volumes may need a dedicated flagger assigned to them.
- Should use hand signals with a flag or flashlight with red glow cone to control traffic movements rather than the typical STOP/SLOW paddle.
- Intersections with signals must be either, flashing red, or deactivated with STOP signs displayed for a flagger to override the signal.
- Flaggers may direct vehicles to proceed through a STOP sign controlled condition while holding traffic on other approaches.

Flagging Operations

Mobile Operations

- Flaggers may be moving down the road with the other workers, visibility and conflicts from intersecting roads and driveways are continually changing.
- Always be alert for the need to maintain adequate advance warning for approaching drivers while providing protection and warning for workers.
- It will be necessary to stop operations periodically to relocate advance warning signs and other devices.

Flagging Operations

Mobile Operations



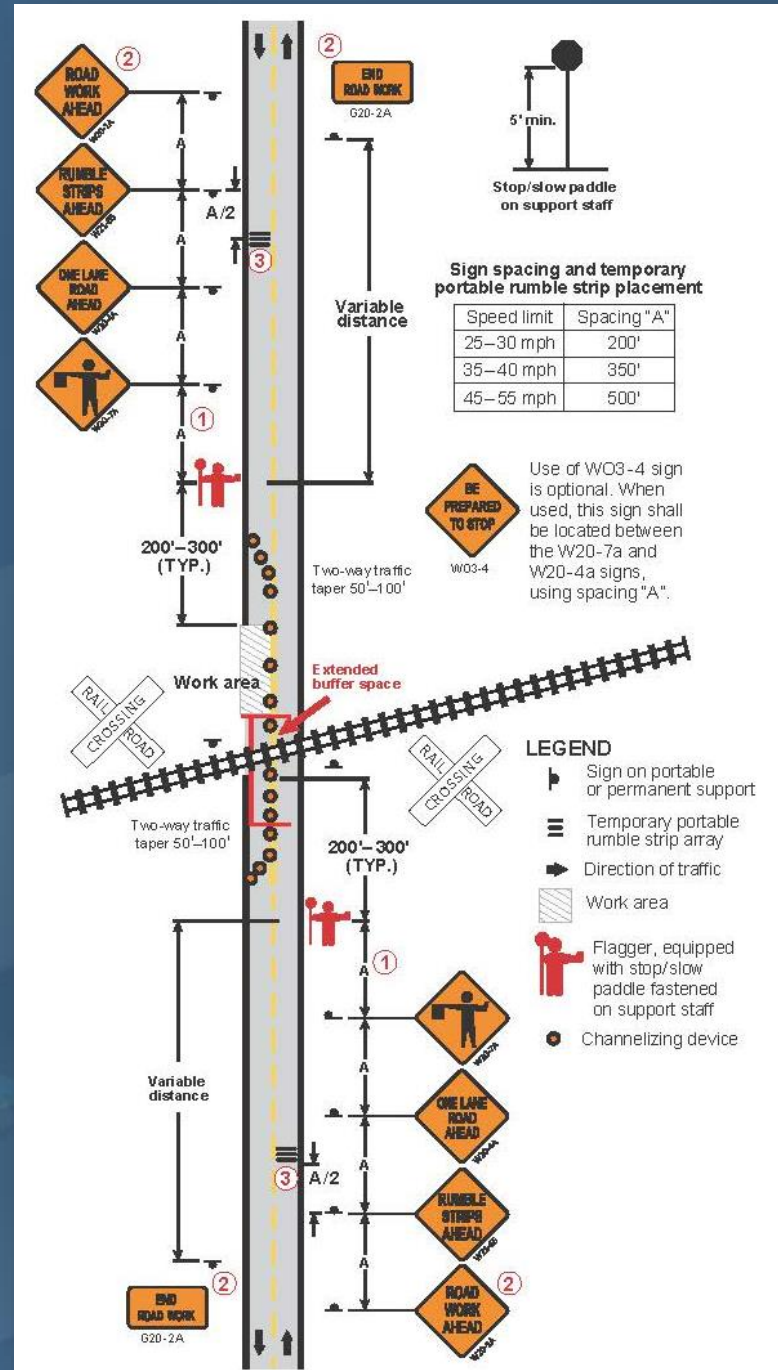
Flagger should be standing on shoulder

Flagging Operations

Railroad Crossings

- Be sure flagging station is not located where traffic may be backed up over the crossing.
- If the flagger position cannot be moved, an additional flagger will be needed to keep the crossing clear of stopped traffic.
- Coordinate with the railroad for any work near a railroad as additional measures may be required.

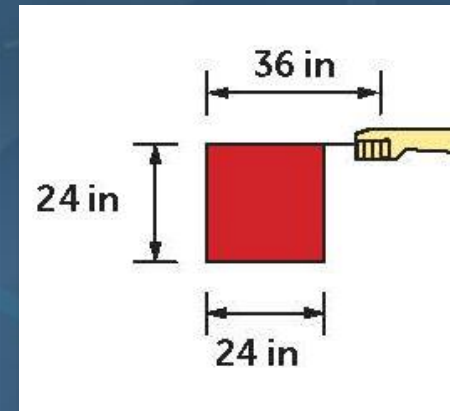
Flagging Operations Railroad Crossings



Flagging Operations

Emergency Flagging

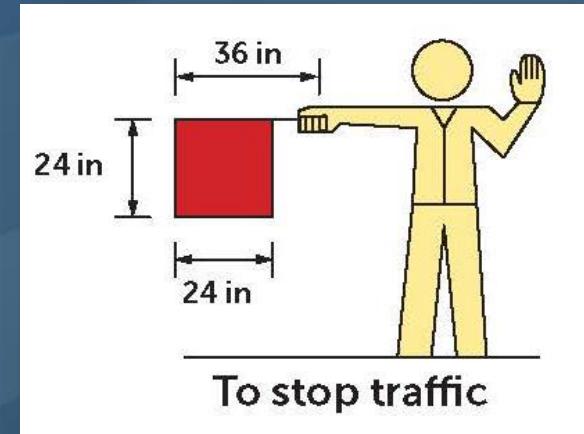
- If the STOP/SLOW paddle is not available immediately, use a good quality red flag to regulate traffic in emergency situations. The flag shall have minimum dimensions of 24" by 24" and a minimum 3' handle.
- Emergency flagging and backing/spotting vehicles onto roadway do not require a certified flagger, advanced warning signs or temporary portable rumble strips.
- The free edge of the flag should be weighted so the flag will hang vertically even in windy conditions.
 - Nighttime situations, may use a flashlight with red glow cone in addition to flag. Retroreflectorized clothing shall be worn.



Flagging Operations

Emergency Flagging

- To *stop* traffic, the flagger should stand on the shoulder of the road and extend the flag across the traffic lane.
- The flagger's free hand should be raised above shoulder height with the palm facing the approaching vehicle and eye contact should be made with the driver.



Flagging Operations

Emergency Flagging

- To *let traffic proceed*, the flagger should lower the flag to their side and with their free arm motion traffic to proceed.
- Do not use the flag to motion traffic through.



Flagging Operations

Emergency Flagging

- To *alert and slow* traffic, the flagger should extend the flag staff and slowly move the flag up and down in a sweeping motion between shoulder height and straight down.
- Their free hand should be kept down.



Flagging Operations

Nighttime Operations

- Using a flashlight with red glow cone, show drivers where to proceed. Do not wave the flashlight.
- When flagging at night illuminate the flaggers station with auxiliary lighting such as floodlights or balloon lighting.
- Auxiliary lighting shall not produce a disabling glare condition for approaching road users, flaggers or workers.

Flagging Operations

Nighttime Operations

Flagger cannot see Traffic

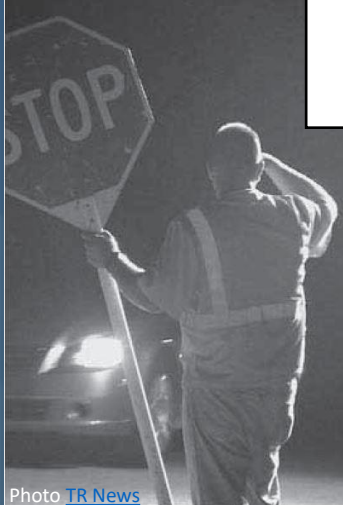


Photo [TR News](#)



Photo [TR News](#)

Traffic cannot see Flagger



Photo: National Cooperative Highway Research Program [Report 476](#)



Photo [ATSSA](#)

Wrap-Up

Are you able to demonstrate:

1. The requirements for proper personal protective equipment?
2. The proper advance warning sign placement for flagging?
3. The proper placement of temporary portable rumble strips ?
4. Properly locating themselves in relation to traffic?
5. Properly locating themselves in relation to obstructions?
6. Proper single flagging technique?
7. Proper two flagger flagging technique?
8. Proper flagging technique at an intersection?
9. Proper flagging technique when pilot cars are used?
10. Proper measures for warning others of non-compliant vehicles?
11. Proper technique when flagging at night?

Wrap Up

Quiz

- Any specific questions before quiz?
- You can use your notes to complete quiz!
- Passing grade is 7 out of 10 questions correct

Wrap Up

Thanks for coming!

- Certification cards will be emailed to each attendee
 - Make sure to write clearly on the sign in sheet and provide all information. Send to DOTDTSDFlaggerCertification@dot.wi.gov
 - Carry training certificate with you until you receive your certification card.
 - Keep with you while performing flagging operations for the next two years.
 - Card can be shown from mobile device.