ATSSA

Safer Roads Save Lives

FHWA Work Zone Safety Grant
ATSSA AFAD Publication Update

Eric Perry, P.E. ATSSA

Overview - AFADs

- Background
- Why AFADs
- Safety
- Deployment and Use
- AFAD Features

AFAD – Publication Update

- Originally published in 2012 under Work Zone Safety Grant
- Updates current practices and provides an overview of the Automated Flagger Assistance Device
- Provides information on deployment, operation, and regulatory context of AFADs
- Incorporates 11th Edition of MUTCD

Link to Current AFAD Publication

ATSSA
Safer Roads Save Lives

Why AFADs Matter

Flagger Safety Challenges

- Flaggers face serious risks such as being struck by vehicles and verbal or physical abuse in work zones.

AFADs Enhance Safety

- AFADs enable flaggers to operate from safer locations, reducing their exposure to traffic and environmental dangers.

Improved Traffic Control Efficiency

- AFADs contribute to smoother traffic flow and minimize delays, benefiting both workers and motorists.

Safety

- The need for enhance flagger safety
  - 2024 – 5 flaggers killed
- AFADs enhance work zone safety by allowing flaggers to control traffic remotely, reducing exposure to hazards
- AFADs are supplemental safety tools allowed by the MUTCD

Types of AFADs – Stop/Slow or Red/Yellow Lens

Figure 6L-1. Example of the Use of a STOP/SLOW Automated Flagger Assistance Device (AFAD)

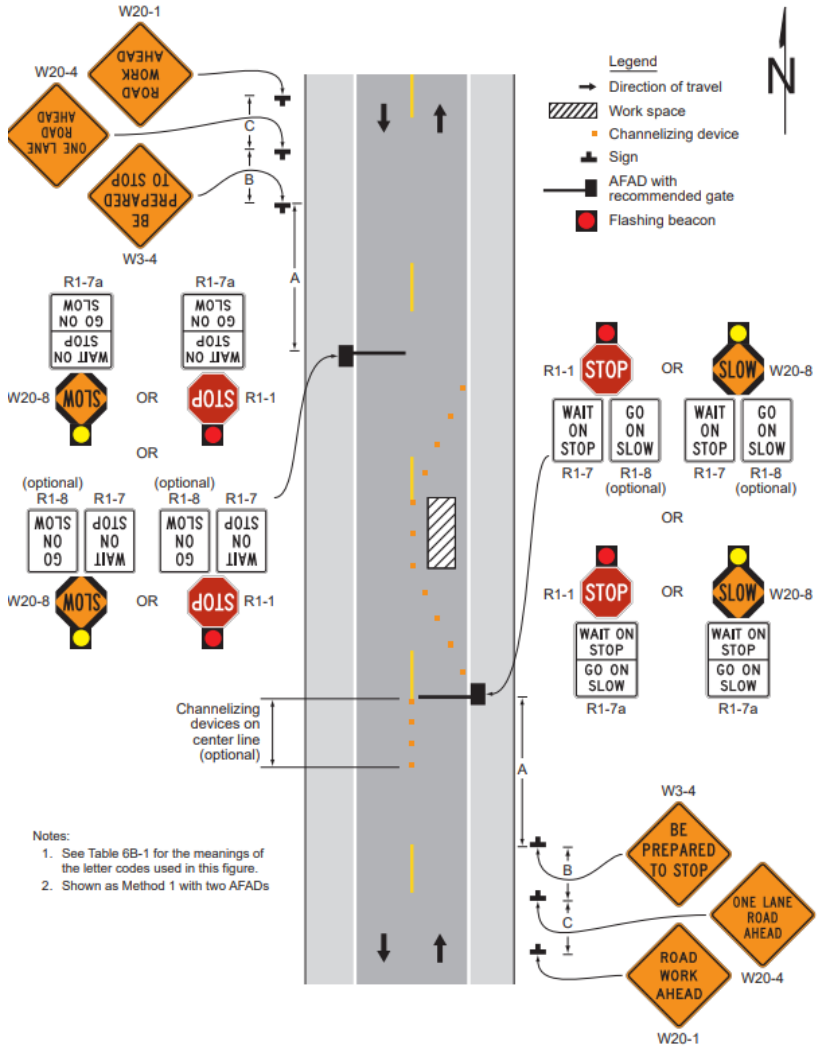
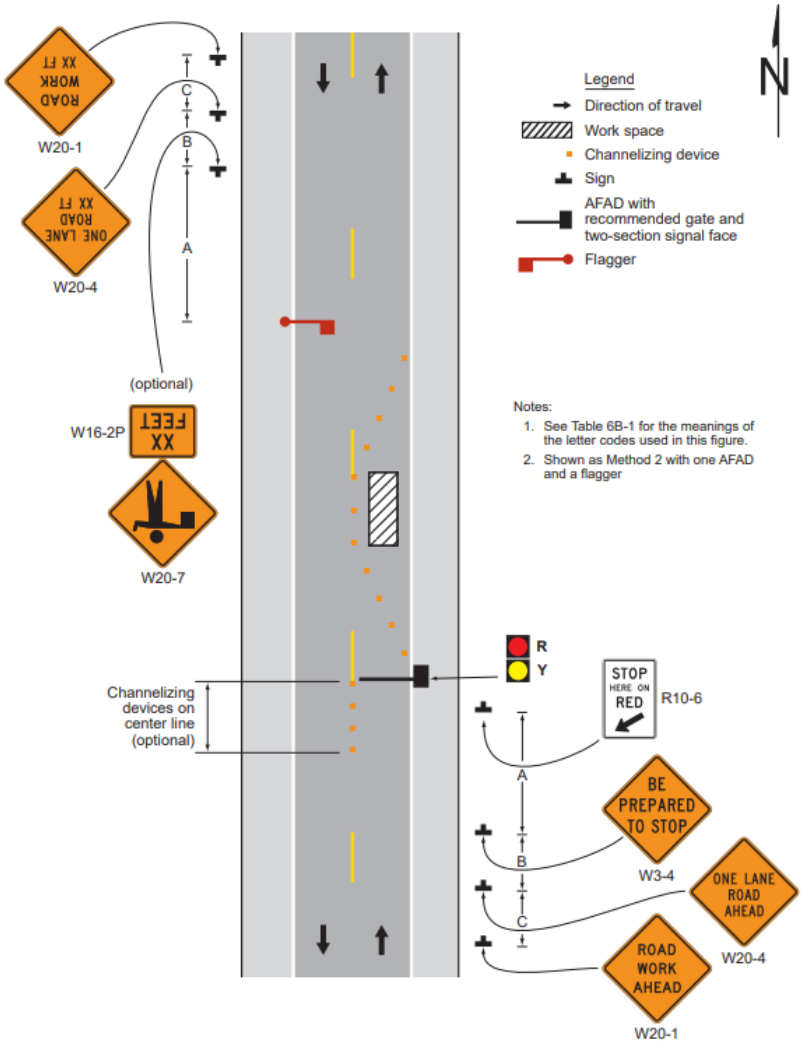


Figure 6L-2. Example of the Use of a Red/Yellow Lens Automated Flagger Assistance Device (AFAD)



AT

ATSSA Safer Roads Save Lives

Deployment and Use

Optimal Project Duration

- AFADs best suit short to intermediate projects; short operations under one hour are less ideal due to setup time.

Common Project Types

- AFADs are effective for rural milling, resurfacing, bridge maintenance, utility work, and pavement repair.

Safety and Coordination

- Proper flagger positioning, coordination, and sight distance are critical for safe AFAD operation.

AFAD Features

Device Mobility and Setup

- AFADs are trailer-mounted or cart-mounted for easy transport and quick setup at work zones.

Remote Control Operation

- Wireless or wired remotes with graphical interfaces allow flaggers to operate devices safely from a distance.

Battery Life and Power

- Remotes last nearly a full day, while main units can hold charge for up to a week, ensuring continuous operation.

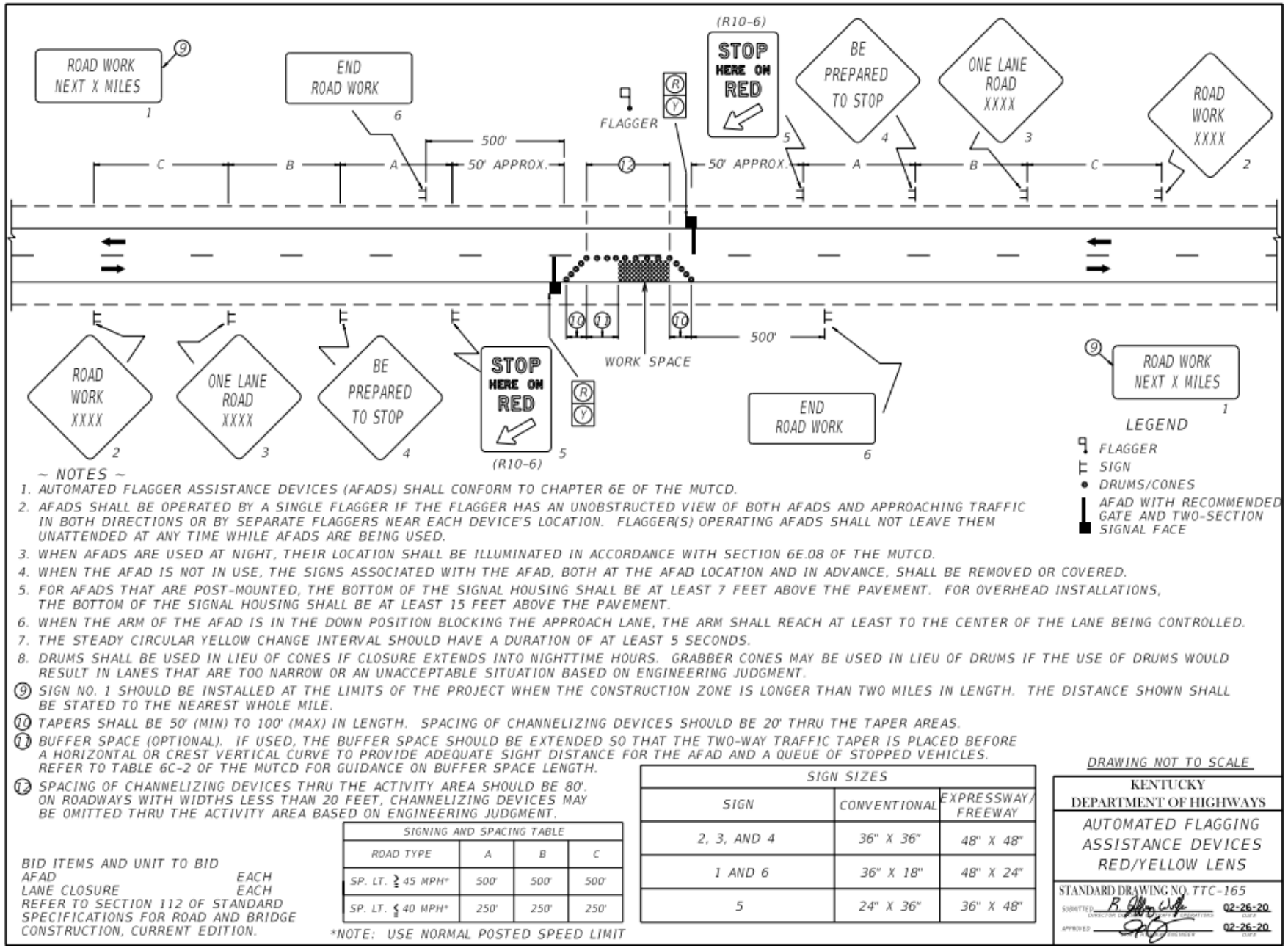
Advanced Safety Features

- Features include magnetic rotatable gate arms, intrusion alarms, video monitoring, and operational alerts for enhanced safety.

State Examples Include

- Kentucky
- Tennessee
- Virginia
- Michigan

Kentucky AFAD Application



Source: https://transportation.ky.gov/

ATSSA.com

Link

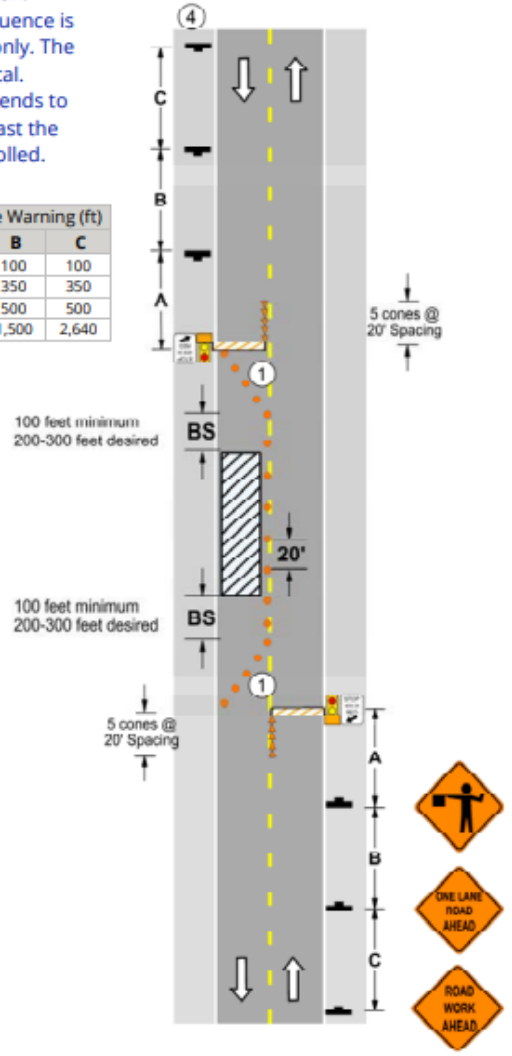
ATSSA
Safer Roads Save Lives

(1) Lane Closure – Automated Flaggers

NOTES:

1. The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.
2. Maximum distances between AFAD units:
   - Two Operators: 1500'
   - Single Operator: 800'
3. A **Stop Here on Red** sign shall be installed as an additional sign to the typical 3-sign work zone for flagging operation.
4. The advance warning sign sequence is shown for one-way direction only. The other direction shall be identical.
5. Ensure that the gate arm descends to a down position to reach at least the center of the lane being controlled.

Road Type	Advance Warning (ft)		
	A	B	C
Urban < 45 mph	100	100	100
Urban ≥ 45 mph	350	350	350
Rural	500	500	500
Expressway/Freeway	1,000	1,500	2,640



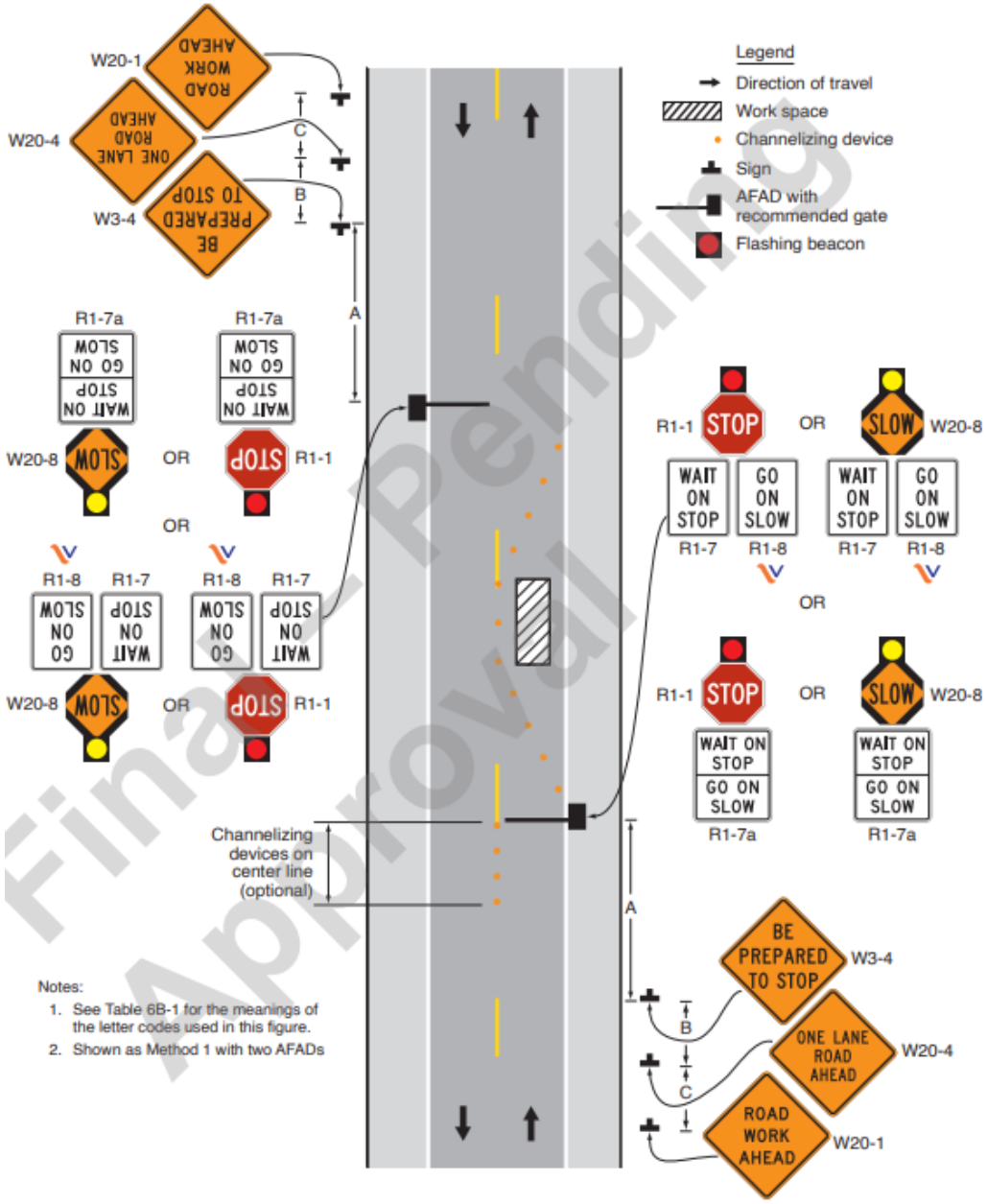
Source: https://www.tn.gov/

Tennessee AFAD Application

Link

ATSSA
Safer Roads Save Lives

Figure 6L-1. Example of the Use of a STOP/SLOW Automated Flagger Assistance Device (AFAD)

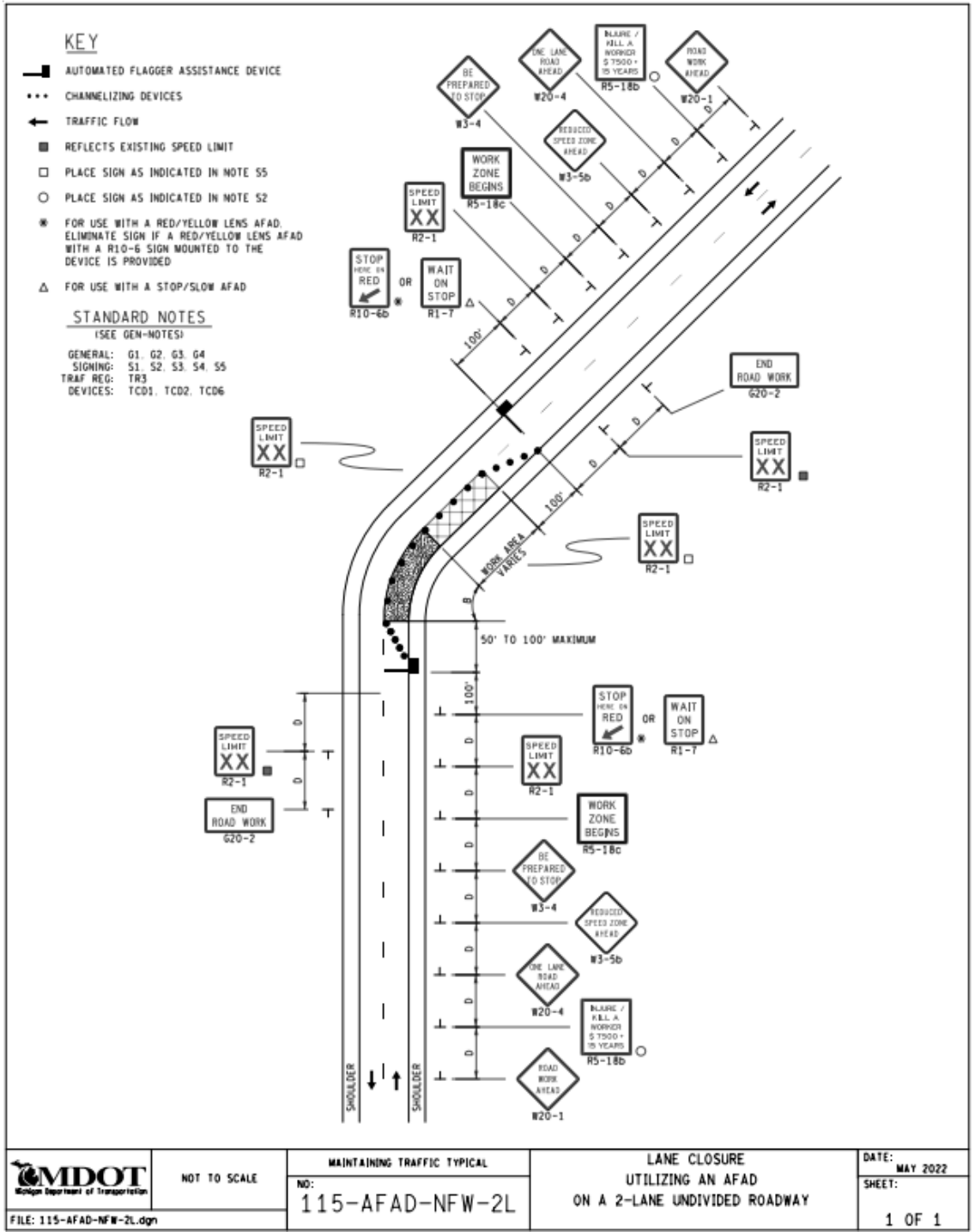


Source:
https://www.vdot.virginia.gov/

Virginia AFAD Application

Link

ATSSA
Safer Roads Save Lives



Michigan AFAD Application

Source:
https://www.Michigan.gov/

Link

ATSSA
Safer Roads Save Lives

Thank you!

- Eric Perry, P.E. ATSSA
- Eric.perry@atssa.com